Volume 3 Number 1
A Garetb Powell Publication
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Professional Amiga User

MAGAZINE

February/March 1992

Imagine 2.0
A Major Upgrade

DCTV
TV Quality Animation, Painting and Digitising

OctaMed 2.0
Eight Track Sequencer

OpalVision
New Local Product Preview
A PAL Video Toaster?

Invision Plus · Action Reploy III

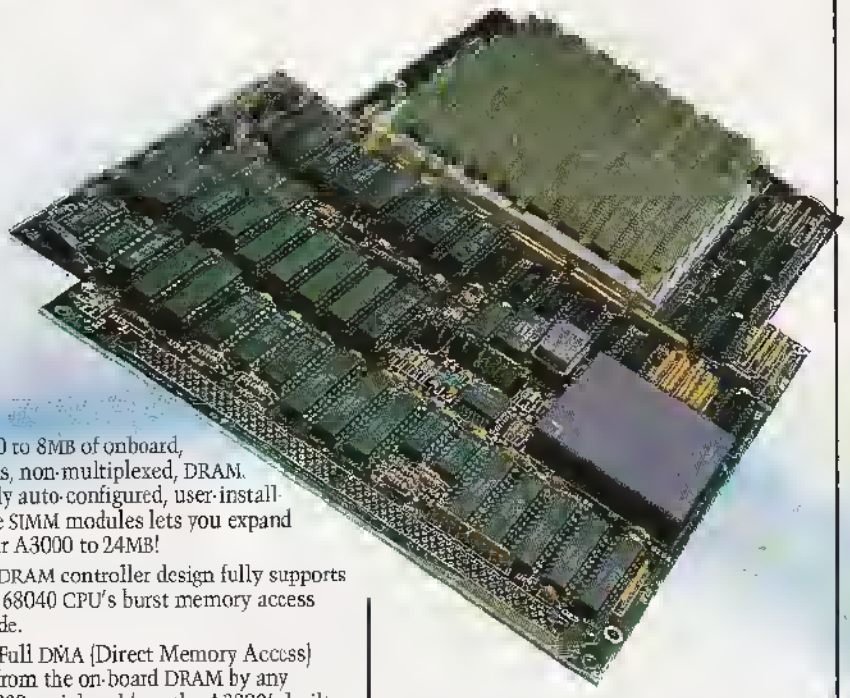
Which Text Editor?

Conon Vs Citizen : Printers

* Recommended Retail Price Only

THINK ALL '040 ACCELERATORS ARE THE SAME?

THINK AGAIN!



As a high power Amiga® 3000/3000T user you need a 68040 accelerator board for one reason... and one reason only... SPEED!

And once you know what makes one 68040 accelerator better than another, the only board you'll want is the G-FORCE 040 from GVP.

WATCH OUT FOR SLOW DRAM BOTTLENECKS

Yes, all 68040 CPU's are created equal *but* this doesn't mean that all accelerator boards allow your A3000 to make the most of the 68040 CPU's incredible performance.

The A3000 was designed to work with low-cost, 80ns DRAM (memory) technology. As a result, anytime the '040 CPU accesses the A3000 motherboard, memory lots of CPU *wait-states* are introduced and all the reasons you bought your accelerator literally come to a screeching halt!

Not true for the G-FORCE 040...

SOLUTION: THE G-FORCE 040's FAST, 40ns, ON BOARD DRAM

To eliminate this memory access bottleneck, we designed a special 1MB, 32-bit wide, non-multiplexed, SIMM module using 40ns DRAMs (yes, *forty nanoseconds!*). This revolutionary memory module allows the G-FORCE 040 to be populated with up to 8MB of state-of-the-art, high performance, on-board DRAM. Think of this as a giant 8MB cache which lets the '040 CPU race along at the top performance speeds you paid for.

SHOP SMART: COMPARE THESE G-FORCE 040 SPECS TO ANY OTHER '040 ACCELERATOR

▶ 68040 CPU running at 28Mhz providing 22 MIPS and 3.75 MFLOPS!
NOTE: The 68040 incorporates a CPU, MMU, FPU and separate 4KB data and instruction caches on a single chip.

▶ 0 to 8MB of onboard, 40ns, non-multiplexed, DRAM. Fully auto-configured, user-installable SIMM modules lets you expand your A3000 to 24MB!

▶ DRAM controller design fully supports the 68040 CPU's burst memory access mode.

▶ Full DMA (Direct Memory Access) to/from the on-board DRAM by any A3000 peripheral (e.g: the A3000's built-in hard disk controller).

▶ Asynchronous design allows the 68040 to run at clock speeds independent of the A3000 motherboard speed. Allows easy upgrade to 33Mhz 68040 (over 25.3 MIPS!) when available from Motorola.

▶ Hardware support for allowing V2.0 Kickstart ROM to be copied into and mirrored by the high performance on-board DRAM. Its like caching the entire operating system!

▶ Software switchable 68030 "fallback" mode for full backward compatibility with the A3000's native 68030 CPU.

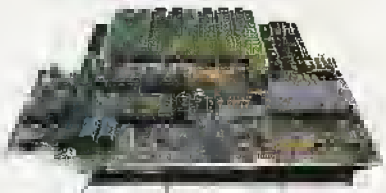
▶ Incorporates GVP's proven quality, experience and leadership in Amiga accelerator products.

TRY A RAM DISK PERFORMANCE TEST AND SEE FOR YOURSELF HOW THE G-FORCE 040 OUT PERFORMS THE COMPETITION

Ask your dealer to run any "RAM disk" performance test and see the G-FORCE 040's amazing powers in action.

So now that you know the facts, order your G-FORCE 040 today. After all, the *only* reason why you need an '040 accelerator is *SPEED!*

G-FORCE 040™



Up to 8MB of high speed (40ns) DRAM | *Motorola 68040 CPU running at 28 Mhz*

A3000 "CPU slot" connector

GREAT VALLEY PRODUCTS INC.

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Contents

FRONT COVER
Ray traced in *Imagine* (750 x 1000 pixels in 24-Bit) Modelled and rendered by David Boddy. Beach scene by Gary Rayner using Opal Vision paint software and Epson flat bed scanner.

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First Words

➤ On this month's front cover you'll notice an image in the lower left corner which has been embellished with a few low flying Federation Starships. You may also be interested to know the foot prints in the sand to the right of our happy couple were added, along with the pattern in the guy's shirt, which was plain in the original image. There's a few other obvious additions too.

All this was made possible using a paint package developed in Australia and operating on a 24-bit display device which was also produced locally.

Both are revolutionary products for the Amiga in the areas of video and desktop publishing. Gary Rayner, the guy pictured on the cover (that's his girl-friend on the right) is the brains behind the operation. He and his talented team of Amiga developers are preparing to launch a very serious product right from our own back yard.

Apart from the applause deserved for such determination and brilliance, it's certainly exciting to know that PAL based machines will soon be able to enjoy the kind of hardware previously only available for NTSC Amigas. The OpalVision Technology products take the 24-bit theme much further than existing PAL 24-bit display devices - check out Click-Here-First for details.

Rumours of new Amigas continue to grow stronger. Our latest information indicates that three new models can be expected over the coming year. For serious users, the most interesting of these is the Amiga 1000 Plus, which is compatible with the new AA chip set expected late this year. Stay tuned for more information.

The hottest new product at the moment is DCTV. Apart from the fact it is a great television quality display enhancer, and a full 24-bit digitiser, DCTV can play 24-bit animation.

Any animation created in DCTV format will play in real-time on the Amiga. Existing 24-bit animations can be converted to this method of storing each frame. What this means is you no longer need to have a frame accurate VCR to produce full 16 million colour animations.

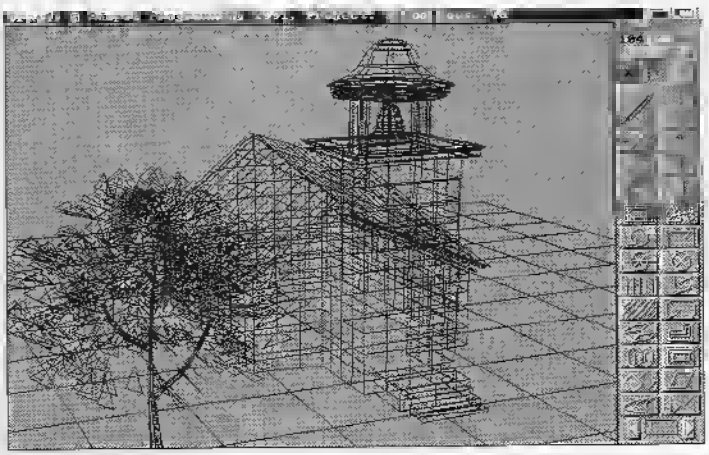
Although not reviewed in this months issue, we have been testing *Draw-4D Pro*, a 3D-Drawing package which directly supports DCTV. *Draw-4D* has amazing texture wrapping capabilities and is possibly one of the most exciting new animation products outside of *Imagine* 2.0. Watch for a full write up on that one next issue.

At the moment, *Professional Amiga User* magazine is arriving on the news stands at the middle of the bi-monthly cover date. Over coming months we hope to push that forward to the start of each bi-monthly period, so you can expect next month's issue at the end of April.

We're still on the look out for regular contributors. especially people interested in writing a column covering a specific subject. If you think you can help, call our editorial office or write to the address on the contents page.

Hang in there Amigans, the PC hasn't won yet! This year Commodore will return to its previous sock removing mode. With the new hardware, new peripherals and new software arriving in coming months, the Amiga will stay on top. The European market is still very strong, so we can all be rest assured that Amiga is here to stay for some time to come!

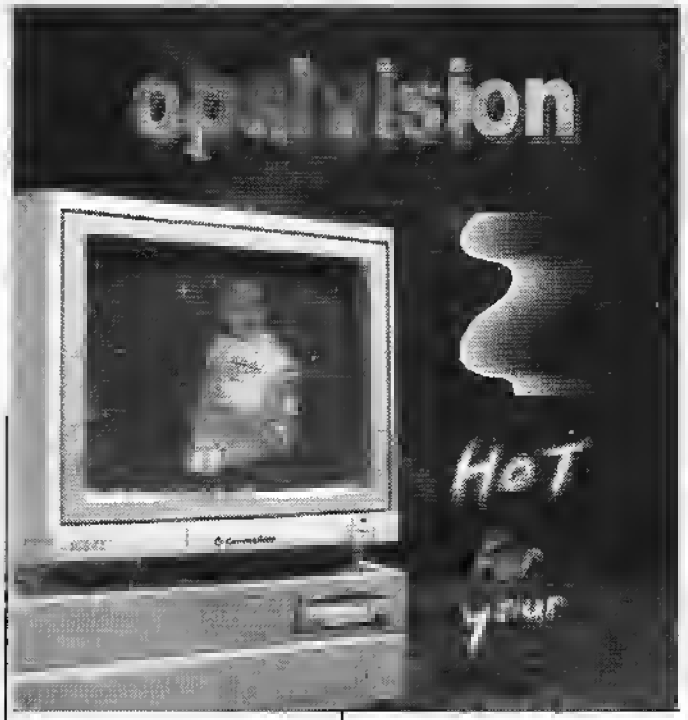
Commodore Australia has a new marketing manager and World of Commodore is already shaping up. So, make sure you plan to be there from July 2-4 at the Darling Harbour Exhibition Centre, Sydney. Next month we hope to announce a new Art 'n Animation contest to be judged at the show. Until then, enjoy. ■



Draw4D-Pro

OpalVision

24-Bit Paint, Video Roaster, & FrameGrabber



➤ OpalVision is the core unit of a new 24-bit, real colour computer graphics and video processing system for the Amiga 2000 and 3000 which will ship this side of July. We has a sneak preview and the paint software alone looks fantastic. Features of the core unit include full 24-bit display giving a palette of over 16.7 million colours and perfect true colour images. A wide range of display resolutions are supported, up to maximum of 768x580, corresponding to full video overscan.

OpalPaint is bundled with the unit - a real-time 24-bit paint and image-processing package. An exceptional range of tools and effects are included, with stencils, transparency, multiple brushes and unequalled ease of use. Image file formats supported include IFF24, JPEG, HAM and all Amiga IFF files. Virtual memory management allowing editing of 24-bit images with resolution up to 32,768 x 32,768.

OpalVision will include a full range of other bundled software including Icon-driven slideshow program, 24-bit screen backdrops and other utility software. The unit boasts RGB output specifications in excess of broadcast, fully compatible with all genlocks including the OpalVision genlock and FrameGrabber.

Connection is simple - it's fully plug and signal compatible with standard Amiga monitors and automatically configures to PAL or NTSC output format.

However, the most exciting part is that you can expand with plug-in modules to provide genlock, FrameGrabber, real-time video processing and scan rate conversion for 24-bit non-interlaced, flicker free images. Expected retail is around AUS$995.00. Units should be available within the next two months, with the add on boards following.

The Genlock and FrameGrabber will allow a combination of Amiga graphics, 24-bit OpalVision images and live video.

FrameGrabber Features

• Define a 256 level transparency mask for OpalVision or Amiga images so live video will show through transparent portion of the computer image.

• Genlock fully software controlled for fading, switching, etc.

• Instantly freeze and save video frames, a sequence of frames, or freeze a section of the screen and save it as a "brush".

• Fully accessible from within OpalPaint so grabbed image can be image-processed, modified or combined with other video and painted images.

• Real-time video processing and effects such as white balance correction, solarising and strobing.

• Input and output RGB, S-VHS, Hi-8, or Composite signals in excess of broadcast standards.

• Plugs into OpalVision main card. No external wiring or power supply needed.

• Expected retail of $795.00

OpalVision Video Roaster

• Real-time processing and morphing of live video, with effects and transitions such as smooth page turns, scaling, skewing, flipping, and abitary morphing such as wrapping onto the surface of a sphere, cube or wave.

• Software supplied to design and sequence transitions and effects, with a library of useful wipes, dissolves, wraps and transitions included.

• Module plugs into socket on OpalVision main board. Also requires OpalVision genlock and FrameGrabber module.

• Expected retail $345.00

OpalVision Scan Rate Converter

• Display of all OpalVision output as a non-interlaced, flicker free image on a multisync monitor. This includes the normal Amiga display, 24-bit OpalVision images and live or frozen video from the OpalVision genlock and FrameGrabber (if fitted). Also acts as an independent 24-bit frame buffer.

• Plugs into OpalVision main card. No external wiring or power supply needed.

• Expected retail of $1,195.00

For more information call (02) 899 4322. ■

Make 3D Images

➤ Thanks to a "partially documented" feature in the new ADPro, Amiga users can now make stereoscopic 3D images that can be used with almost any Amiga authoring environment. Briefly, Haitex original 3D file format was a modified ILBM format with left and right eye images "stacked" one atop the other. This was SUPPOSED to make some animation and drawing operations easier/faster, but it could not be used with standard Amiga IFF/ILBM-using programs.

With the new ADpro, the user acquires separate left and right eye images (up to 736 X 241 non-interlace) stacks them up (composites them; right image uppermost for recording use--see below) then executes the INTERLACE operator. Even better, this image can be put out as a "24 bit" DCTV file using the ADPro DCTV operator. DCTV images, properly handled, are much brighter than IFF images displayed on an RGB monitor--believe it or not! The resulting standard IFF or DCTV images can be used with programs like CanDo, AmigaVision, and The Director to produce interactive 3D programs that virturally jump out of the screen. To toggle the LCD glasses when viewing the program, the Haitex mouse/interface box can be used with their ON3D utility or an external synch driver can be used. I prefer to use the StereoDriver 2001 from 3DTV Corp. (P.O. Box 13059 San Rafael CA 214/479-3516). This needs a video signal source (I use the A2000 video out, the DCTV video out, or the genlock out) but it's worth using because it also allows recording and playback with standard video tape (assuming a genlock or DCTV goes to the VCR video in).

These wonderful features in ADPro allow virtually any Amiga user to experiment with or make practical use of stereo 3D images! DCTV can be used, by the way, with a standard camcorder and a "swing-arm" to acquire right and left images. ■

ADPro

Amiga Stars in Airport Show

➤ Visitors to the huge Logan International Airport at Boston (USA), requesting tourist information will shortly be asking an Amiga for help, in what is one of the largest multimedia installations yet devised.

The system, designed by a specialist Canadian Multimedia company, is intended to promote each of the six New England states; their history and tradition, as well as activities offered, major attractions and so on.

The Amiga was chosen because of its unique multimedia characteristics.

Twelve interactive user terminals incorporating Amiga 3000 computers will cater for more than 2000 user sessions and four million information requests in the first year alone.

Each Amiga 3000 has a 100mb hard drive, a Sony 1271Q monitor, a MicroTouch touch screen, a Sony LDP2000 video disc player and separate amplifier and speakers.

Over 22 minutes of full motion video in 70 modules, along with over 1200 still frames of maps, pictures and illustrations are included on the video player, along with up to 120 minutes of digitised speech in 400 separate sequences on the hard disk.

While each terminal is individually operational and self-supporting, each is linked to a central Amiga 3000 to provide system monitoring, usage statistics and updates.

The entire system is automatically updated every three hours and the master computer can trigger a download in special circumstances.

The master computer also polls each terminal to ensure it is operational and that its touch screens and video discs are responding.

Ongoing updates can be supplemented with weather and traffic information, and the system is designed to cater for data services and cable TV input if required.

■

Commodore Quarterly

➤ Commodore International Limited (NYSE: CBU) reported earnings of $40.1 million, or $1.18 per share on sales of $371.6 million for the second fiscal quarter ended Dec. 31, 1991.

This compares with earnings of $36.5 million, or $1.12 per share on sales of $384.1 million in the year-ago quarter. Earnings per share of $1.18 in the December quarter were based on diluted average outstanding shares of 34 million vs. 32.4 million in the prior year.

For the six months ended Dec. 31, 1991, net income increased to $45.4 million, or $1.35 per share compared with $43.5 million, or $1.34 per share in the prior year. Sales for the six months were $575.7 million compared with $584.4 million in the year-ago period.

Net sales declined 3 percent for the quarter, due entirely to the adverse impact of foreign currency fluctuations. Unit sales of the Amiga line increased 21 percent while C64 sales experienced nominal growth. Sales of the Professional PC line and CDTV combined to offset volume declines related to the discontinued low-end MS-DOS range.

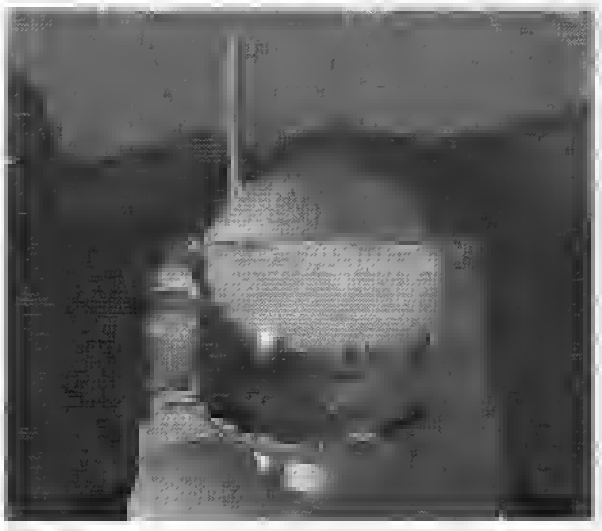
Gross profit for the quarter declined 11 percent, due entirely to the adverse impact of foreign exchange rates. Operating expenses were reduced by 18 percent vs. the prior year, more than offsetting the decline in gross profit. These factors resulted in net income for the quarter of $40.1 million.

On Dec. 30, 1991, the company repaid a 100 million Deutsche Mark debenture issue, and maintained a year-end cash position at a level approximately equal to the prior year.

Irving Gould, chairman and chief executive officer stated: "We are pleased with the sustained growth in the Amiga and Professional PC lines, along with the continued demand for the C64. The growth in profitability for the quarter was achieved despite the significant unfavourable effect of foreign exchange rates."

Recent speculation on Commodore International stock drove the price up from the mid US$16/share range to just over US$19/share. Investors were hoping for a quarterly report that earnings for FY92Q2 would be greater than analysts expectations. Commodore reported second quarter earnings at US$1.18/share vs US$1.12/share in 1990, in line with market forecasts. Following the announcement, CBU stock dropped 2-1/8 to 16-7/8.

"The stock is definitely down on disappointment that the numbers were not higher than they were," said Fechtor Detwiler analyst Ronald Opel. Opel said he reiterated a buy on Commodore after the earnings report, which exceeded his forecast of $1.10/share. "I am calling this a buying opportunity and we're encouraging people to buy the stock if they have a time horizon of three months. I think the company is going to have a very good year," he said. ■



Amigas Make Virtual Reality Possible

➤ Spectrum Holobyte has launched a series of virtual reality games under their new subsidary, CyberStudio. The product line is called Virtuality and the first games are intended for arcades.

In Virtuality, players wear a seven-pound head piece and a four-pound control unit around their waists. They stand on a small platform while connected to the game units. Movements are controlled by the player's hand movements on a specially designed joystick.

In the first generation of the games, the graphics are a bit blocky and movements can be jerky. Graphics are polygon-based, though they will be updated as better technology comes out.

Consumers can expect to pay about $1 per minute to play. Spectrum Holobyte expects to release the first Virtuality titles available to personal computers in about three years.

Charles Hill of Ami-Report International contacted Spectrum Holobyte and asked what was being used to drive these unit. He was told that AMIGAS are being used for the graphics and control! If you check out the innards of many existing arcade game machines, guess what you'll find? Take a look inside the latest stand-up shoot 'em down video disc based Western action game for starters! ■

Amiga Network

➤ ENLAN-DFS, a network solution by Interworks is currently in the late Beta-test stage and reports are encouraging. ENLAN-DFS (DFS means "Distributed File System") is targetted at the Amiga-only workgroup.

It works somewhat like Novell - you add the servers' drives and devices and it looks like you suddenly have extra hard drives, printers and so on, in your Amiga.

Unlike Novell's mainstream product, any Amiga can serve it's drives and devices and you can use it as an Amiga at the same time!

If you need Novell support specifically, you should be able to save yourself a bit of money by installing that new Novell client software (or even Commodore's NFS client for that matter) on only one machine and serve the Novell resources around the rest of the workgroup with ENLAN-DFS. This hasn't actually been tried as yet.

The DECnet solution (ENLAN) is a different animal. It works with VMS, Ultrix and PC's (running Pathworks/DECnet-DOS). And, of course, the two (ENLAN and ENLAN-DFS) work together beautifully should you need it.

Overhead is not bad at all. DiskSpeed on a machine here yields 7 to 15% less CPU for network access v. local access (A2000/30 w GVP S-II) over the entire range (512 -> 256KB buffers).

As far as memory, the base network takes up 120KB which includes a decent-sized chunk for network buffers. Each Imported drive takes up a tad less than 45KB on the client, but that sounds a little high (could be all the debugging stuff).

Access to remote ports is through Handler-level devices. Simply "Export" PRT:, SPEAK:, SER:, etc., on the server and "Import" them on the client.

If a client crashes, the server will notice and clean up its end. It doesn't affect any other clients at all, even if they're sharing the same drive. If the server crashes, the clients' networked devices become "dismounted". You would then re-Import them on the client to reactivate the drives.

The client <-> server protocol for ENLAN-DFS is truely a 'remote procedure call', and is very close Sun's RPC when run over TCP/IP (not confused with RPC over UDP/IP, like NFS) - all that says is we're connection oriented rather than connectionless.

It even uses an "XDR" External Data Representation layer which provides standard encodings of messages to make going to different machine architectures much easier. Down the road I'm looking to make the libraries and tools available so users can write their own networked applications.

No, it's not SANA-II compatible. Once somebody with the network group at Commodore talks to these guys, we might see a SANA-II interface for it. Either they're real independent out there or they don't care.

One might see a performance hit using SANA-II; though it's unsure. Two A2000/30's with ENLAN-DFS will meet or beat two EISA 486/33's with 32 bit disk and Ethernet controllers with Novell. Very informal, albeit reproduceable, testing - your mileage may vary.

Also, being SANA-II compatible is worthless if other packages you may want to work with are not. Like Commodore's TCP/IP?

The network package ENLAN-DFS is based on, is a year and a half old. It's solid as a rock. The design was pretty much cast in concrete by the time SANA got going. Nevertheless, the company is interested in compliance.

System requirements:

- A2065 Ethernet card per machine
- AmigaDOS 2.04 (V37) or later
- around 300KB disk space
- 1.5MB RAM; more recommended if a single machine is serving multiple Amigas.

Exact price is not set yet. It will be less than US$350 per workgroup, where workgroup is defined as some modest number of Amigas, probably around 10. Includes one set of software and documentation. Additional manuals, if required, are extra. Aim is to begin shipping 2nd half of next month, or whenever we get the go-ahead from our beta test group. For more information contact:

Interworks
195 East Main Street,
Suite 230
Milford, MA 01757
(800) 321-3893
(508) 476-3893

Hands on Experience

The following is an edited thread taken from CompuServe's AmigaUser forum.

From Black Belt Systems (76004,1771) : [ENLAN-DFS] is fast - extremely so; it allows you to reference any number of volumes, or rooted directories on an extremely large number of other Amiga systems, and (if you need it) will also connect you to VAX systems. It's based upon Ethernet, a 10 mbps inexpensive single coaxial cable network.

The network drives show up on your WorkBench, with ➤

Gold Disk Professional Page 3.0

➤ Gold Disk have announced a major upgrade to *Professional Page*, their award winning desktop publishing program. "Version 3.0 represents a major breakthrough in the evolution of desktop publishing" explains Kailash Ambwani, president of Gold Disk Inc. "Most of the routine tasks associated with page layout are now completely automatic, freeing the designer to concentrate on the creative aspects of his work."

The new version incorporates more than 30 automatic functions or "Genies", facilitating fast and effortless creation of professional quality documents.

By selecting "Create Page From Genie", users can quickly and easily create page layouts and designs. Requesters allow the user to select the layout type, page size, columns, margins and other specifications. In addition, users may choose from advanced features including line drawing and placement, address printing and text importing. *Professional Page* 3.0 will then generate a complete page layout, based on the users specifications.

Function Genies automate many routine desktop publishing operations. Functions include push button envelope addressing, automatic mail merge from an external database, and automatic grid and table creation. Text formatting functions include automatic drop caps, automatic small caps, and automatic sub and super scripts.

Using over 300 ARexx commands included with version 3.0, users may customise *Professional Page* by creating their own Genie functions. Possible functions include hot links to databases or spreadsheets, batch printing, or automatic graphic sizing and placement.

Other new features include an undo button, enhanced colour separation and under colour removal algorithms, auto-tiling for output of larger pages, and text import filters for most popular word processors including ProWrite, Excellence and QuickWrite.

Professional Page 3.0 includes five new AGFA Compugraphic scalable outline typefaces, for a total of seven typefaces. Adobe Type 1 fonts are also supported and all fonts can be scaled in increments of 0.125 points.

Graphic handling will be enhanced with a hot link to *Professional Draw* 3.0, making it possible to export a structured drawing to *Professional Draw*, edit the drawing and return it to *Professional Page*. *Professional Draw* 3.0 will be available later this year.

Professional Page 3.0 will run on any Amiga with at lest two megabytes of RAM and a hard disk drive and is Workbench 2.0 compatible, and will be available in mid February, with a retail price of US$295.00. For information call Dataflow on (02) 310 2020.

■

➤ icons. You can export things like your serial device(s) and parallel device(s) and even the printer device. Our laser is now doing multiple duty, it's truly wonderful.

You can even use your own preferences to control the remote printer, though it's a little tricky (and I mean only a little).

We've experienced ZERO problems with the net; the installation is smooth and easy, though you'll want a reasonably computer-savvy person to choose the machine node names (at least with the current state of the manual). For a network, I'd have to say the installation was trivially easy.

You don't need to know any non-native commands like "netcopy" or "netdir"; the AmigaDOS commands just see networked drives as normal devices and volumes. I really don't think it could be done much better; this is the way the Amiga is supposed to be expanded.

You can have as many servers and as many clients as you like; and clients can be servers as well. We're using inexpensive CBM 2065 Ethernet cards; they work out of the box.

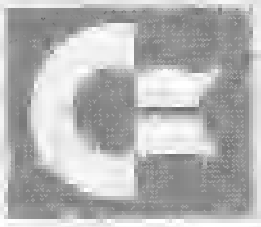
This thing allows your Amiga's to net directly into each other's filesystems. It feels like your machine suddenly grew more drives and peripherals... something you can't get from the other solutions, which access other system resources only indirectly.

You can also print on the remote machine, using your printer device but the remote parallel port for your printer device to talk to using the same syntax, but with a different setup. We are not associated with Interworks - we're just happy.

■

EUROPEAN UPDATE

➤ It's -15 degrees centigrade and snowing. Every second car whizzing by on the autobahn is a BMW or Mercedes, and we're having sauerkraut and sausages for dinner tonight. Guess where I am? Well with more than fifty per cent of all Amigas in the world having been sold here, Germany could well be referred to as the centre of the Amiga universe.



Commodore radio commercials are a daily occurrence. The largest ever Amiga exhibition was staged here in November last year and the newsagents shelves are brimming with Amiga specialist magazines each month!

Why am I telling you all of this? Well, because I'll be reporting to you, the Australian Amiga user, from here in Germany, to keep you up to date with what is happening in Europe.. I'll be looking at the Amiga scene in general as well as market trends, new products, the latest exhibitions, and how good the skiing is.

Amiga 500 Plus

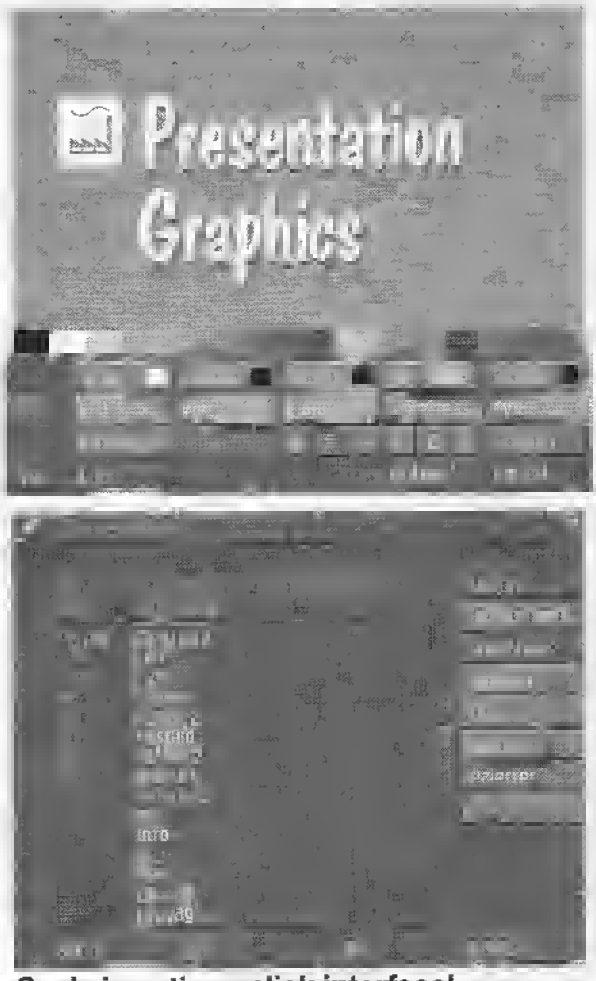
One of the hottest items released in Germany late last year was the Amiga 500 plus, which is doing a roaring trade according to latest CBM reports. For those who haven't heard about the 500 plus yet, it is basically an Amiga 500 fitted with the new operating system 2.0 and sporting the latest Enhanced Chip Set which includes the 2Mb Agnus chip. Another plus is that it comes standard with 1Mb of RAM and is expandable internally to two MBytes. The Germans like this product so much they voted it the best new product of 91 (according to *Amiga Special* Magazine, 12/91).

Of course the new operating system 2.0 has been released here for several months now as an upgrade kit and there is already a lot of buzz about 2.1. The main talking point about 2.1 so far is that it sports the ability to select which language the system operates with (i.e.. German, Spanish, English etc.), and all your workbench/system menus then appear in the selected language.

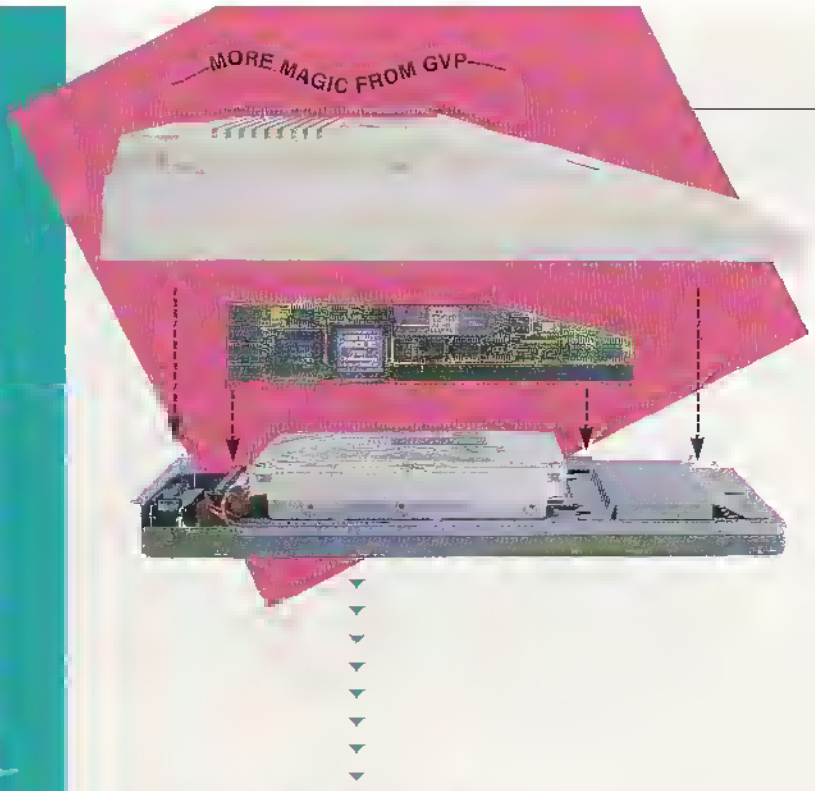
Presentation Graphics

Professional graphics and multimedia mean AMIGA in Deutschland, with *Imagine* taking out the award for the best program of the year (*Amiga Special* Magazine 12/91) and 24 bit graphic cards proliferating. In fact there are numerous clubs specifically for *Imagine* users, to swap ideas, pictures, and objects. There's even talk of an *Imagine* specific magazine!

Everyone here is eagerly awaiting the release of *Scala* V2.0, which should be out early this year. New features expected include support of the new 12/16 bit sound cards



Scala in action - slick interface!



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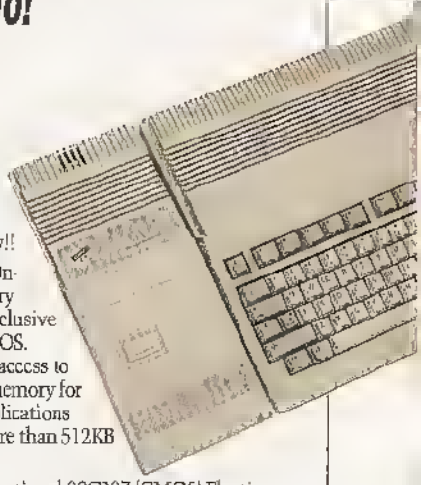

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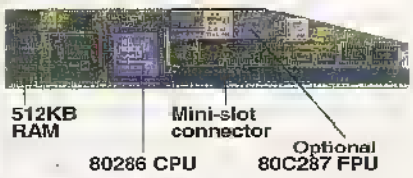

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from Sunrize and the ability to combine sounds into a script in a similar fashion to Anim files.

The current 1.13 version already supports IFF, *SoundTracker* and *Deluxe Music* sounds. The 1.13 release of *Scala* was recently rated as Very Good, obtaining 10.2 from 12 points in the *Markt & Technik* Amiga Magazine. Main features mentioned were the real time anti-aliasing, Rolling Titles, ARexx support, colour-fonts and the ability to control the Canon Still Video Playback unit RV-321.

In fact, according to my latest report just to hand Scala 2.0 is now on the streets, and selling for about 850 DM's. Because of the high price tag a cut down Scala version known as Scala 500 has also been released. The cost reduction with the 500 version comes at the cost of some feature reductions such as no automatic anti-aliasing, number of overblending functions cut by half and numerous other strip backs. On the up side, lots of background pictures are provided, some great fonts and plenty of example symbols.

Video Solution

The Video Effects machine, DVE-10P, from the company Videocomp GmbH was revieyed in the same article as the latest Scala release (mainly because they are currently being bundled together in Germany) and received a very good rating. This update from the older DVE-10 claims to be the first machine to be able to mix two video sources and the Amiga picture and combines the functions of a video digital effects unit (including picture in picture), videoprocessor, video mixer (with Fade and Wipe effects), audio mixer, fast-time digitiser and genlock interface in one machine. Combined with the fact that it is designed to be operated by Scala, it provides an integrated video environment that is sure to do well.

24-Bit Update

Staying with the video theme, the new DCTV 24 Bit graphic and video system for the Amiga is getting good press coverage, especially due to its relatively low price (currently going for about 1300 DM's). The reviewers liked this one too with a Very Good stamp of approval (M&T 2/92), particularly owing to its direct file format support of *Real 3D*, *Imagine*, *Art Department Pro*, *Draw 4D Pro*, *VistaPro* and *Scenery Animator*.

Fonts Editor

A great new outline fonts editor has just appeared on the market, with the original name of *FontsDesigner*. The program was developed by a German company and as yet is only selling in a pre-release version, with the company promising the real thing as soon as it's ready. From what I have seen of it so far, for anyone heavily into DTP and using outline fonts it looks like a real must.

Hottest Games!

The hottest game in Germany this month is Rules of Engagement by Mindcraft, with other names is the top ten like Battle Isle, Lemmings (still up there), Gods, Silent Service II, Lotus Turbo Challenge 2, Railroad Tycoon and Starflight II.

DCTV... full review page 10.

Australian Products

Directory Opus is proving very popular over here and receiving strong reviews. Another Australian invention receiving lots of coverage is the Phoenix Board for Amiga 1000 owners.

This system allows for the complete overhaul of an Amiga 1000 providing compatibility to Amiga 500 Plus cards, 2 MBytes of Chip RAM, Kickstart 2.04, a SCSI controller, Video Slot, Maths Co-processor Socket and more! Yet another product doing it's part to promote Australian technology overseas!

Speaking about 1000s, the German company Kupke are now offering 68030 expansion boards for the good old Amiga 1000 (yes there are still a few around) with the down side that they only run at 14MHz. And while on Hardware, GVP have just released a 16MHz '286 based PC emulator for the Amiga 500 plus.

Exhibitions and PD

When it comes to Public Domain, the Germans have really got the last word. Fish collection is well over the 580 number now, but is only one contender in the Deutsch Public Domain race, with the Maxon Kick PD disks well over 500, Cactus Disks also up there and so many others that there are numerous vendors proclaiming more than 14,000 Amiga PD Disks in house!

The Europeans do things on a big scale, and exhibitions are no exception. The advertisements are already rolling for the Berlin Messe, happening April this year, which of course we'll be bringing you highlights of, and the big one will be on again in October in Cologne. If it lives up to last years reputation it should be a great show and one not to miss!

Well that concludes report number one from your correspondent on assignment in Germany for *Professional Amiga User*.

Bis zum naechsten Mal, Auf Wiedersehen.

- Geoff Elwood.

■

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DCTV

24-Bit For The Masses

If you fancy yourself toying with television quality graphics, DCTV is the most affordable solution. With the ability to animate 16.7 million colour graphics in real time, it's also about one tenth the cost of alternative systems. Andrew Farrell road tested the PAL unit now shipping in Australia.

➤ Amiga in the United States means video. As a result, most of the truly innovative video products for the machine have originated in the States. Over there they use the NTSC standard for broadcasting television. In Australia we use PAL, a superior system which is also used by the U.K, parts of Europe and South America.

The down side of this is we have to wait for American companies to convert hardware over to the PAL standard before it is of any use to us. After a long wait, DCTV is now shipping in PAL form. At around $1200 at the initial release, it was certainly a lot more expensive than the NTSC version. However, street prices are now hitting as low as $999.

DCTV is one of the most exciting add ons for the Amiga for some time. Until now there has been no way of playing 24-bit animations. Normally, you would have to record each frame at a time to an expensive professional VCR. Combined with the right control equipment, producing such animation would require the purchase of around $10,000 of extra equipment on top of your Amiga. With DCTV, any VCR can be used to record the output. DCTV is also a powerful 16.7 million colour paint box and digitiser.

Installation

I have been in the habit of connecting and disconnecting things from my Amiga for some time. When I plugged in DCTV, it didn't work. The problem was I had damaged my video port which provides the necessary power to the DCTV unit. There are three power lines present on this port, and shorting them out can blow a tiny solid state fuse which is soldered to the Amigas PCB. A quick trip up to Sibnet, a Sydney Commcare Centre and all was fixed.

Once DCTV powered up, I connected a standard 1084S to the composite output and a Canon still video camera to the composite input. The next step is to adjust a small knob on the back of DCTV until one of the demonstration images included with the software displays clearly on your composite monitor. Every monitor is different and must be individually adjusted. Once you've got it right, DCTV functions reliably and we experienced no other problems getting it working.

The manual is well designed, and quite easy to follow, however some of the paint softwares more powerful features are skipped over too lightly, leaving some things to be discovered by experimenting with what brief mention of some features is made.

Before too long I was up and running, digitising images from the Canon and distorting them in all sorts of ways using the paint software. The images look just like a still frame from your VCR - slightly blurry, television quality, with lots of colours which all look slightly flat. Don't expect to see the same crisp, vibrant output that an RGB 24-bit display device provides. DCTV is completely differently to these devices. It is this difference that gives it the animation advantage.

What is DCTV Anyway?

You might call DCTV a trick of sorts. It's not real 24-bit, however, it's as 24-bit as you'll probably ever need. The number of output colours is achieved using normal Amiga display modes. However, the way the information is interpreted by the DCTV unit is where things start taking shape. For a start, there's a small chunk of information at the top left of any DCTV image which are vital to the image being displayed correctly. Because

DCTV images are stored as IFF files, any program can load them and display them providing the image is correctly positioned on the screen so that the chunk is in the right spot.

The actual bitmap is also different to a normal image. On your RGB monitor the screen looks like a big mess, with only a vague looking image visible. However, through the DCTV's composite output, the full potential of the composite colour display is visible. Composite video combines both colour and picture information in the same signal, so the result is never as crisp as RGB. However, since television is essentially a composite signal, the results look almost the same once recorded to video and played back through a television.

For the technically minded, DCTV uses special compression techniques to compact the video data and then decompress it on the fly during display. The flexibility of this system is that you can play full television quality animation back as fast as a normal Amiga animation in the same resolution. On an accelerated Amiga the results are very impressive.

Paint Software

Although not right up there with *Deluxe Paint*, the DCTV paint software is of a very high standard. Air brushing in 24-bit is a whole new experience - for a change the results look like real air brush effects. The software is arranged like *DigiPaint*, with a panel of gadgets on a separate screen which is normally located at the base of the painting. A row of buttons across the top of the panel activate different painting tools including Paint, Area Fill, Text, Scissor, Paste, Magnify, various lines, Squares, Circles, Draw Fill, Stencil Activate, Make Stencil, Swap Page, Quick Save and Load and a screen to back gadget.

Working with colours is very simple. You can easily adjust an existing colour well, or mix colours in the mixing area using any of the normal paint tools. Although brushes can only be saved in a proprietary format, they can be manipulated in many ways. A brush can be rotated any number of degrees, flipped, sheared, sized and bent. The shadow gadget creates a shadow with variable distance and angle from the clip, and an adjustable degree of opacity.

Paint modes include normal solid painting, effected only by the flow setting; tint, which changes the chrominance portion of underlying graphics; shade, which changes the luminance part of the colour; air brush and water-colour, which works with a finite amount of paint with each stroke or mixes existing colours.

A whole range of fills are available including gradient, pattern and wrap. Gradients can be border, horizontal, vertical, linear, radial, remap, spiral or four-point. Patterns may be tiled, brick, wallpaper or mirror tiled. A wrap may be horizontal, vertical or from a point.

The stencil facility allows you to build up a stencil using the normal paint tools and to select a range of colours to include, with a degree of nearness. Once you've created a stencil it can be saved, inverted and edited with ease. You can also blend, smooth, rub thru to the background image and filter (for legal composite colour).

Overall, the paint software is amongst the more powerful contenders. The variable magnify option is excellent and overall speed is very good. The software is let down only by the manual which lacks clear examples and brushes over powerful features way too quickly.

Digitise

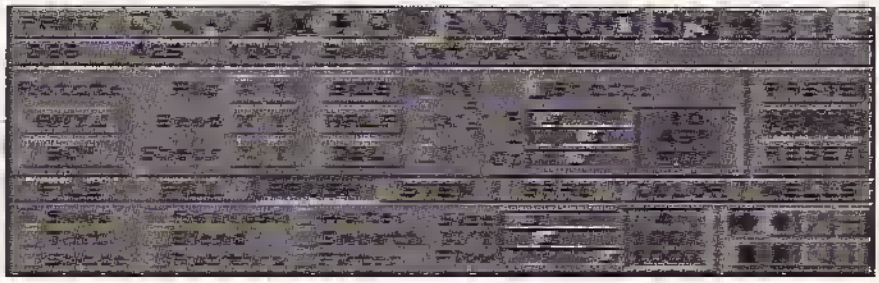
Capturing images from a still video source proved to be one of DCTV's strengths. Apart from scanning in colour photographs using a flat-bed scanner, DCTV sourced images are amongst the best quality I have seen on the Amiga. Like most, the software to capture images is very simple. The scan takes from six to 10 seconds - the speed is adjustable to fit in best with the device you're using for input.

Once you have the picture in memory, there are some simple image processing capabilities, although this is an area where DCTV is lacking slightly. Another problem we had was that although you can save the image as a 24-bit IFF, there is no way to save a grey scale picture as an 8-bit image. Considering DCTV with a Canon still video camera produces ideal black and white images when desktop published, it would be nice not to have to continually convert back and forwards between both formats.

Conclusions

Many programs support DCTV including *VistaPro*, *AdPro 2.0*, *Imagine* and more are on the way. Considering DCTV images can be so easily used in other programs and that you can play 24-bit animations easily, DCTV is a must have for animation and presentation graphics use. As a paint box it is a well rounded packaged which could do with a few bells and whistles. As it stands, DCTV is good value for money. The quality is not RGB, but then neither is the average television.

A composite to RGB adaptor is in the pipeline. This will allow DCTV images to be genlocked over video. When that arrives, DCTV will certainly be a real bonus for video titling. It would be great to see a digital video effects unit which takes advantage of the DCTV display format. Otherwise, a very worthwhile device for all sorts of uses. For more information contact Power Peripherals on (03) 532 8553 or Color Computer Systems on (09) 349 6492.



Action Replay III

Hacker's Delight

Whether you're trying to capture graphics, music or sounds from your favourite game, or need a handy assortment of DOS utilities on call, the Action Replay packs a mean punch. Daniel Rutter tested the third release of this popular cartridge.

➤ The name Action Replay became famous on the C64, where it was (and, indeed, still is) one of the best of the "do everything" cartridges. Its functions on the Amiga are often dissimilar, but the basic idea of a gadget to make life easier for programmers, gamers, reviewers and muckers-about remains.

Action Replay plugs into the side expansion bus of the Amiga 500, or may be bought as an internal version for the A2000. The box shows two LEDs (one for power), a knob and a switch. The other LED indicates "slomo" is active, in which game (or any other) action is slowed even unto total immobility - it is turned on by the switch and the extent varied with the knob.

The fun and games, however, really start when the button is pressed, which drops the Amiga into a special screen, from which screens can be grabbed, machine code can be shoved into RAM, things can be disassembled, sounds can be hunted for, disks can be copied, games can be trained and umpteen other exciting things can take place.

What's New

There are 12 new functions, some comprising more than one individual command. They are (in the order in which they appear in the manual):

SAFEDISK - will, with the n, b, s, v, u, a or q commands, respectively disable drive clicking, fix the AmigaDOS bugs which cause file to be damaged or lost, allow the reading of damaged tracks by letting what data there is pass, verify all disk writes, update tracks by resetting the track buffer and switching off the drive motor after a brief period of inactivity, activate all of the functions or quit SAFEDISK completely. A most impressive command.

BURST - activates the Burst Nibbler, a disk copier which handles multiple destinations and also Atari ST and MS-DOS disks. It is similar in many respects to D-Copy, the earlier in-built Action Replay copier, but more flexible. It is not, however, blindingly quick; a straight single-destination formatted DOS copy takes 110 seconds plus, as opposed to the sub-100 attained by the Public Domain program, SuperDuper. BURST may also be invoked by holding the left mouse button while rebooting, which is handy.

DEEP TRAINER - This new feature is an addition to the Action Replay's simpler trainer function. It allows the training of games which use coded life numbers, peculiar incrementation or energy numbers instead of the straight 3-2-1 game over sequence of old. The associated commands, TDS (start), TDC (change), TDD (delete addresses), TD (display addresses), TDI (display probable addresses) and TDX (exit) are, of necessity, less straightforward than the simpler technique, but overall allow the training of virtually anything. As before, an example (*Robocop 2*) training sequence is provided to familiarise the user.

MEGASTICK - This allows the joystick to behave like keypresses, to enable keyboard games or other functions to be performed by moving the stick in one of the eight directions, with or without fire. Only one key is allowed per position, so it really hasn't much use beyond games (although, now that I come to think of it, how about a remote switch wired to the fire pins which, on closure, activated a function-key macro - thus only one key would be needed - which played a ding-

dong sample? W. Heath Robinson doorbell). Cute, though. The commands associated with this function are NOSTICK (remove it) CLRSTICK (clear keys) SSTICK (save keys) and LSTICK (load 'em).

RESET - Just like the tiny PD program of the same name; performs the Vulcan nerve pinch for you.

PAL - Switches PAL (European/Australian video standard) capable Amigas into this mode.

NTSC - Drops PAL machines into the queasy flag-waving (thanks to the valiant attempts of the 50Hz PAL machines to emulate the 60Hz mode) big-scanlined US/Japanese video mode.

SETMAP - Allows keymap setting, to assign new strings to keys to become active upon reset.

ASCII - Displays the complete ASCII-Hex correspondence table. Simple but deeply useful.

ALERT - When followed by a guru number, this identifies it for you. By itself, it scrolls past a mighty list of possible foul-ups.

SMALLCHAction Replay - Drops Epson compatible printers into their reduced character size mode.

NORMALCHAction Replay - Turns the above off.

PRT - Sends a string to the printer, accepting text or ASCII values (thus escape sequences can be sent).

LM - Allows machine code/data to be whacked straight into memory anywhere, a boon to programmers.

MS - Sets a memwatch point at any location. As soon as something changes memory at that location, the Action Replay will self-activate and point its program counter at the next instruction after the culprit. OK, coders, all together now, Yay!

MW - shows set watchpoints (you can set as many as you like).

MD - Deletes watchpoints.

MDA - deletes all watchpoints.

TR - Traces without subroutines. This command traces a machine code program a set number of steps, treating subroutines as one step, and updating everything the program would normally change as usual.

ST - As above, but treats subroutines as consecutive bits of program, counting their steps as well.

? - Calculates a value. Allows hex or decimal +, -, / and *, with correct priority orders now used (the designers sheepishly admit...).

Not So New Features

FORMAT - Straight AmigaDOS format. You can also do FORMATV (with verify) and FORMATQ (quickly reformats pre-formatted disks to blank them, taking only a couple of seconds).

DISKWIPE - Destroys all data on a disk, making it unrecoverable.

DISKCHECK - Scans for errors.

COPY - The common or garden file manipulation command. Other CLI commands more or less emulated (they're all simpler versions than the Commodore efforts, but quite usable) are CD, DIR, DIRA (equivalent to CLI "dir opt a"), MAKEDIR INSTALL (with two sorts of bootblock supported, a plain vanilla and a virus detector), DELETE, TYPE, RELABEL, RENAME and AVAIL.

BOOTPROT - Writes a custom bootblock which renders the disk unbootable unless an 8 digit code is entered via the associated command BOOTCODE. Then a reset will allow booting as normal.

CODE - Allows the encoding of all data on a disk, making it useless unless the drivecode for that unit is set to the appropriate number. The associated program CODECOPY allows coded disks to be copied, or uncoded ones to be encrypted.

RT - Reads tracks from disk to RAM. The associated WT will write RAM data onto disk. DMON will show where tracks are going to or coming from, as set with the previous two commands. CLRDMON clears and de-allocates this RAM.

BOOTCHK - Checks a bootblock checksum. The associated DATACHK will do a data checksum for any disk sector loaded into RAM with RT. BAMCHK will do a straight checksum on it. All will correct incorrect checksums.

SA - One of the AR's major features, this will save a frozen program to disk as a file, with variable compression. Thus your own lumpen code can be unified (provided it all fits in RAM at once, or demo versions of multi-load programs can be easily constricted. It's also nice as a game save on long arcade games that won't let you do it any other way. Associated commands are SR, which restarts the frozen prog as soon as it's saved, LA which loads a disk file to RAM, LR (you figure it out), and SLOADER which saves a loader file to enable frozen programs to be started independently of the AR. All of these commands also have a "Q" variant (e.g. SQ, LQR), which does the same thing but with a RAM "disk" instead of a floppy. There is also EXQ, which swaps the ramdisk program with the frozen one, EXQR, which does the same thing then restarts the program now frozen, and SQMEM which orders the Action Replay to save to fast rather than chipmem, or vice versa.

TRACKER - Hunts music tracks in RAM. looking for common PD formats like SoundTracker. Less than totally reliable, but has some nice options.

SCAN - Hunts samples in RAM. It has no idea what constitutes a sample, though, so you've got to scan through and isolate them yourself. A nice mouse interface to select the played bits, so not too bad.

P - Another big function - picture hunting. Many, many options, as you'd imagine on a machine with so many universal graphic formats. Associated commands are SP to save the located pic as an IFF ILBM, and SPM to do the same thing with the raw mempeeker screen.

TS - Starts the old trainer. The associated commands T, TF, TFD, TX and PC allow the user to hunt for any location in memory where, as he restarts, loses a life and then flicks back to the AR, a number goes down by one. A few passes like this and the life counter is found, now it can be disabled. Later, all that has to be done is the relevant address entered for the trainer to be back on; or the program can even be frozen out to disk with the trainer intact. Plenty of examples are supplied.

RAMTEST - Hunts for memory faults by writing garbage and reading it back.
PACK - Packs a memory block with variable compression.
COLOR - A simple palette, accepting numerical input to change the Action Replay screen and pen colours. RCOLOR will reset them if you've done something ugly.
TMS - Marks a memory address, purely to avoid frantic scribbling. TMD will delete a marker, TM will show all set markers.
SPR - Activates a simple but effective sprite editor.
VERSION - Shows ROM version.
VIRUS - Hunts through memory for viruses; the KILLVIRUS varian will find 'em and nuke 'em, too.
SETEXCEPT - Sets the Exception handler, banishing the guru.
COMP - Compares two memory blocks, displaying all differences.
SM - Saves a memory block to disk. SMDC will do the same, but leave it in DC.B format for disassembly by separate packages. SMDATA will do the same again, but this time in DATA format.
A - Starts the MC68000 Assembler, to allow assembly language instructions to be typed straight in.
BS - Sets a breakpoint. As soon as something hits that memory location Action Replay wakes up and says howdy. B will show breakpoints, BD delete the last one and BDA kill the lot.
X - Restarts the current program from where you left off.
C - Enables the copper assembler/disassembler, like A only different.
D - Begins 68000 disassembly from the frozen point.
E - Shows the chip registers.
F - Hunts for a string in memory. FA does the same thing for Adr Addressing opcode instead; FR will do a relative search to find strings encoded by simple addition or subtraction from ASCII values.
G - Goto an address, for program redirection or testing.
TRANS - Transplants a memory block from one place to another.
WS - Writes a string to memory.
M - Shows memory as bytes and allows editing. N does the same thing, but displays the memory as ASCII instead of hex. Y does it in binary. NQ displays in ASCII in quick format and does not allow editing.
NO - Sets an ASCII offset, to allow the display of text "coded" by simple value addition or subtraction.
MEMCODE - Not unlike the disk CODE instruction, but does it for RAM instead.
O - Fills a memblock with a string.
R - Shows or modifies 68000 registers.
W - Displays CIA contents.
INFO - Displays a list of system information.
LIBRARIES - Shows a list of Execbase libraries and their locations.
INTERRUPTS - Shows all active Execbase interrupts.
EXCEPTIONS - Shows 68000 exception list and where they're pointing.
EXECBASE - Shows exception and interrupt vectors.
RESOURCES - Shows the execbase resource list.
CHIPREGS - Shows name and offset of chipregs.
DEVICES - Shows Execbase devicelist.
TASKS - Shows tasklist.
PORTS - Shows portlist.

Documentation

The manual, as before, does not spoon-feed the reader in its 62 small pages. Competent users will have no trouble, rank beginners will struggle a bit and not use a lot of the features, but anyone with time and patience will be able to perform basic activities like disk operations, training, screen/sound grabbing and so forth.

It has an index, a brief Getting Started section for the amateur and, helpfully, marks new features with an asterisk. This simple act is of enormous assistance to reviewers like myself: a thousand thanks to Datel for this small consideration (and, while I'm effusing, to the makers of Audio Engineer II, who did likewise). It is not One Of The Great Manuals Of Modern Times, but I've seen far worse.

Conclusions

The physical appearance of the Action Replay has changed very little since the first version. The grey plastic case is exactly the same, as are the positions of the buttons. Inside, the Mk III is a much tastier design than the Mk I. The Mk III has raised the chip count to eleven, but all are much smaller and everything is surface mount. Very swish.

Overall, the Action Replay III is now a gadget which no serious programmer, hacker, gamer or whatever can really afford to do without. For more information contact Macro-Accessories on (08) 234 5050. RRP $199. ■

Thinker

Hypertext *plus* AREXX

By George Kimpton

➤ They say you shouldn't judge a book by its cover. Thinker certainly falls into such a category. Packaged in cheap plastic wrap, published by a company calling itself Poor Person Software and for some even the name Thinker all combine to create a distinctively off putting impression. Delving into the program itself soon puts to rest any fear of having met a second rate program.

Thinker is a means of applying lateral thinking to documents. You are no longer limited to the traditional format of storing and relating information. Potential for such a program is vast.

For example, how often have you desperately needed information about a program you are using - you grab the manual and search through the index without success. Then you look in the table of contents and still come up empty handed. Sometimes you're fortunate enough to find a paragraph which, tantalisingly, points you in the right direction but still leaves you dangling. This can become a serious problem when more than one document or volume is involved in the search.

This frustration is common, but unnecessary if information is stored in a format like that offered in *Thinker*. Working, as I had been before Christmas, demonstrating Commodore's CDTV with the *Grolier's Encyclopedia CD*, you learn how easy it can be to access information with the right gear. It is fascinating how the CDTV allows you to flit from one subject to another and even change direction in mid-stride.

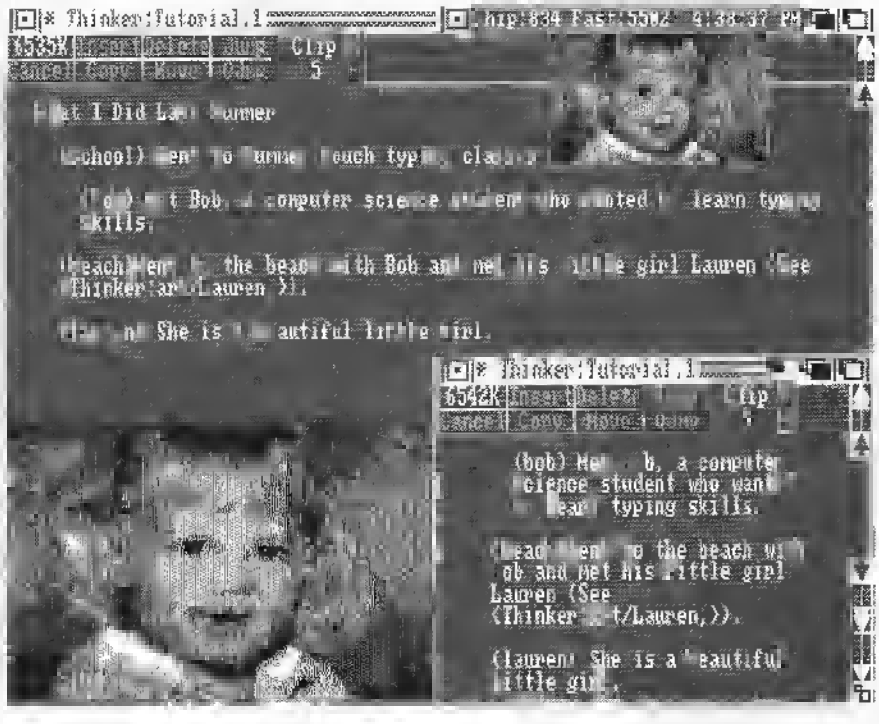
Thinker allows you to do just this when working through a document. You can jump around amongst numerous screens of different sizes, containing graphics or text, and edit them. Whilst some CDTV titles offer a specific software engine to present information in this manner, only *Thinker* lets you use the same links between related information in managing your own information.

Thinker is in fact a type of hyperbook or hypertext. By setting up links it is possible to click on a word and be immediately transported to dissertations on the usage or meaning of the selected word. It is also possible to view artwork associated with the subject under consideration.

At this point I haven't been able to find out how you can do the same with sounds, but since *Thinker* supports AREXX and macros I don't see why not. I know it is possible to run animations, although you will need to find a way to pre-load the animation if you don't want to wait while the frames are put into memory. I loaded and ran an animation from *DPaint* without any problems once I had sorted out the icon's default tool. With this flexibility you can understand my allusion to CDTV.

Getting back to the operating manual idea, it would be possible to produce a software manual on disk using *Thinker* that would allow you immediate cross reference to any part of the instructions at the click of a mouse. Imagine you are in *DPaint* wanting to know how to tint. You just click on the word and there you are reading all about it.

Since you are skipping around in a single file, it would be theoretically possible to jump from one subject to another at will, much as you would flip through a book, providing the jump links had been set up. There would be no need to search indexes or flip pages to find what you want, just point and click and all would be revealed, even demo screens or animations.



How Does It Do It?

Let's have a closer look at *Thinker* and see what makes it tick. Installation is easy. *Thinker* can be run from floppies or a hard disk and can be started from either CLI or Workbench. It will run from Workbench 1.2 and 1.3 but nothing is said about 2.0. At a guess, the more memory the better. It may appear a frightening and dreadfully technical program to set up and use at first glance, but a run through the tutorial included will soon put your fears to rest.

In its own words, *Thinker* is a hierarchical text processor with hypertext. A *Thinker* document is made up of a collection of paragraphs (referred to as Statements or branches) arranged hierarchically and containing textual links to each other. Each Statement in a *Thinker* document can have a number of labels and can be referenced by a textual string (a link) that "names" one of the labels. Wow, what a mouthful, but that is what it said. Now what does it really mean ?

The name Statement (paragraph) applies where the information comes at the end of the branch when there are no further levels to explore. A Branch is a Statement which has links to other subordinate levels or Statements. In other words, each of the "Statements" becomes a part of a Branch. It should be noted that Statements cannot exceed 2000 characters each, unfortunately.

Within each Statement, links are defined, sometimes visually with ( ) or < > characters, and the path labeling, where applicable, indicates the name and where the next Statement or action is to be found. For Statement also read picture if applicable. The path can lead to other documents or disks. Thus with a hard disk it should be possible to access a Statement or picture on virtually any file present to describe or explain a point.

We are told that the HyperText link can link to one of four things: 1) A *Thinker* document, 2) An IFF picture, 3) any Workbench application which is then launched in its own window as a separate task, or 4) an AREXX port, in which case a message is sent to that port. It could in other words link into a Hypermedia product and I think that could be something like *AmigaVision* although I haven't tried it yet.

Again we creep a little nearer the CDTV for in its own words again "The ability to link to Workbench applications makes *Thinker* into a Hypermedia product. Drawings, sound applications, database applications and word processing applications are all possible links in a *Thinker* document."

The sky, or should I say your imagination, is the limit in how you use this program. Obviously memory availability and speed of access will also be critical for effective operation.

If a Statement is to be accessed or searched for it must be prefixed by a name, which can be hidden or visible as you wish. This name is enclosed in brackets to indicate its purpose when setting up the Statement. More than one name can be used. Thereafter, clicking on a word within the document which coresponds to the Statement name will automatically transfer you to that Statement in either the current window or a new one as you so choose.

To step out from a Statement to a graphic or some other action not specifically in the current document requires you to enter an instruction. This consists of a bracketed access path plus the picture or action name, at the appropriate point in the text. These paths must be short, as only 19 non-punctuation characters are recognised.

These two simple steps allow you to search for and display any targeted Statement by double clicking on the appropriate word within the text or a graphic by clicking on the bracketed picture path. When these items are found you are asked to decide how you want them displayed.

Displays

Selected Statements can be displayed by overwriting the current window or in a new reduced size window overlaid on the current main window. This reduced window can be expanded to full size by clicking on a button, or can be dragged anywhere on the screen. It is possible to show four of these reduced screens at the one time. The manual suggests that it is possible to open more windows but this will slow things down.

The graphics can be displayed as a full colour, full screen picture, a reduced quarter size window or a one eighth size picture. The quarter size is displayed only in the four workbench colours. The smaller one is what they call an "Xfer" format which can use 10 colours made up of combinations of the four workbench colours. These pictures can then be selected and inserted as Statements within the document.

Outline Documents

When creating Statements you can choose their hierarchy display level for clipping by choosing from a menu which appears when you insert a new Statement in the document. Thus, by selecting suitable hierarchy and clipping levels, you can create a typical outline document showing minimal main screen data, yet capable of cross referencing and displaying through the *Thinker* format.

Apart from the cross links *Thinker* can operate like *FLOW*, which is an outline processor, with only the desired depth of information displayed, depending on the clip level you set. When using low clip levels you can, by clicking on a symbol in front of a heading, work your way into or out of a subject with the cross links still functioning.

You can choose the depth to which you wish to open the accessed information itself, outline or detail. You may also apply different clip levels to the main display and/or branches as part of the *Thinker* operation. In other words you have a very flexible display level control, which can be adjusted to suit your needs.

Database

On the disk supplied there are some mouth watering recipes in a file called CookBook, which is in effect a database. If the clip level is set to one, then only basic categories are displayed just like an outline document; Entrees, Sauces, Vegetables and so on. From here you can click on the appropriate symbol to move to deeper levels. Alternatively you can set a deeper clip level which could let you see the recipe names or more on the first scan.

Editing

Moving around the document backwards and forwards through the Statements can be accomplished by double clicks on the document, menus or hot keys. Statements or branches can be marked, cut, copied, pasted, moved or sorted alphabetically and indexed.

It is possible to display portions of Statement in any of the standard text styles and in any combination. While the font defaults to Topaz eight it is also possible to specify the display font of your choice and text colour.

It is also possible to control how many lines of each Statement will be displayed on screen, the time and date of modifications.

Thinker allows you to export complete documents or selected branches as ASCII files, with indents attached, for manipulation or formatting in an external word processor. Coincidentally, it is possible to import ASCII files for incorporation into active *Thinker* documents immediately following the anchor Statement (the Statement at the top of the screen).

When documents are imported it is possible to specify whether each line or each paragraph of the incoming ASCII file is treated as a Statement. A paragraph in this case is recognised by the fact that it is followed by a blank line. Thus it is possible to create the text and basic format for a *Thinker* document in a word processor then move to *Thinker* for fine tuning.

Conclusions

This is a surprisingly versatile program, especially considering the price of around $89. The manual refers to possible uses as a database, outliner, desktop organiser, outline planner, picture database or real estate data organiser to name a few.

One thing is for sure, it will provide an easy means of flipping through a range of data on specific subjects once you take the trouble to set it up. By clicking on a client's name in a list you could automatically be shown a brief rundown on them. By clicking on a picture path you would be shown a full screen portrait of him or her. By clicking on another path you would see a picture of his or her car or house. Clicking on the word credit perhaps would bring a display of the financial situation, qualifications would list the academic achievements and so on.

One use I am certainly considering using *Thinker* for is to cross reference Amiga magazines and articles, so I don't have to search through piles of magazines for information. It could even be used as an interactive multimedia system, if properly set up with AREXX, using keyboard or mouse input.

Operation and setting up is easy, once you learn the few basic rules, and you can make it as simple or complex as you wish with AREXX and macros. The only problems appear to be the time taken to activate external projects which use large quantities of data and the size limitations on path delineators and Statement content. If a way can be found around these in version 2.2, then this program could go a long way. ■

George Kimpton is a consultant for Commodore and also offers Amiga users training and assistance. You can reach him on (02) 634-5995

FACT CHART

Category:	Hypertext
Product:	Thinker
Version:	2.1
Publisher:	Poor Person Software
Retail:	$89
Disks:	1
Memory:	512k
Chip:	512k
Ideal:	1Mb or more
Manual:	Ring bound 73pg
Comments:	A hybrid combination of text editor, hypertext and multimedia. Lots of potential if you know AREXX.
Distributor:	Glyphic Software
Telephone:	(02) 484 3827

Canon V Citizen

Portable Virtual Laser Quality

By Greg Wall

➤ If producing high quality black and white or grey scale printouts for invoices, promotional brochures or business letters without the cost of a laser printer interests you, then here are two printers that you can use, with 100% true portability to boot.

Both the Canon BJ-10EX and the new Citizen PN-48 Notebook printers offer high quality 360 dots per inch output with the option to run them with their own battery power. Both offer rear and bottom paper feeding and will handle A4, B5, Letter, Legal and envelopes.

Running bidirectional in text mode and unidirectional in image mode these two are able to produce quality printouts while still offering space saving features and portability. Both printers are packaged well for transport, are able to produce a hexadecimal dump should the need arise, and run from your parallel port.

PN-48 Notebook Printer

The very first PN-48 arrived here in November of last year, and has only recently become available. It is packed full of features.

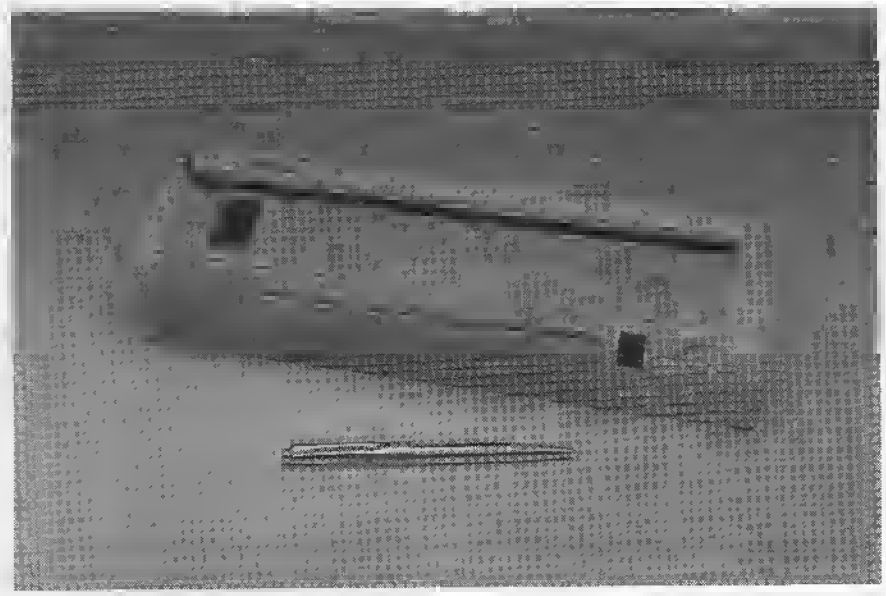
The printer itself is a very smart looking unit; cream and light grey in colour, with a single character LED screen on the front, an adjustable darkness control, on/off, on-line/off-line, LF/FF and menu buttons. It also sports a small rear paper guide to help with paper insertion. Once paper is inserted, the motor kicks in and the printer automatically lines it up to the correct starting position (presuming of course that the paper was inserted straight).

Another bonus is the fact that the printer cable is included - a normal 25-pin to miniature 26-connector on the printer end. You also get a Ni-Cad battery, carry case and two ribbons all in the one price.

The PN-48 uses 48-element Thermal Fusion Technology to create an impression on the page. This process combines heat and pressure on the ribbon to create both a chemical and physical bond with the paper.

Two types of ribbons are used. The first is a single strike ribbon for high quality or final printout. Once used, it must be discarded.

The second is a multi-strike ribbon for draft copies, which can be turned over and used another four times. Both ribbons cost the same amount and come



Compact, functional and very portable - the Citizen PN-48

in a pack of five.

Around 35,000 characters can be expected from the single strike ribbon, while the multi-strike manages some 100,000 characters. Another point of interest is that this technique of printing leaves the ink totally dry, reducing the chance of smudging the output. Due to the fact that you just swap between the two different cartridges to change between draft or final, there is no difference in speed between the two. Adding further to the speed is the ability to skip-over blank areas on the line being printed.

Emulation modes, pitch selection, cartridge end and several other functions, including on-line/off-line status and low battery levels are performed with the aid of the LED display.

Incidentally running on battery power, the printer sleeps after one minute of inactivity, and powers off after three minutes. These times can be changed to four, five , six, eight or 10 minutes to conserve battery power.

Print head life expectancy is rated at 50 million pulses. Keeping count of how many pulses you've actually printed can be rather tedious.

The PN-48 has five pitch selections, will handle paper width from 3.5 inches to 10.2 inches, and length of 4.5 to 15 inches, will print on any angle and both the cartridges and battery are easy to install. The battery will take 400 - 600 charges without problems.

Print time running on the Ni-Cad power supply works out at around 20 - 25 normal pages per charge, with charge time being around six hours. When printing from battery power you can get a rough idea how much power remains by looking at the LED, or you can do a configuration printout which will draw a bar graph indicating battery power.

The Citizen will also notify you via the LED when power is low, and you should get another two pages of print after this. You can also charge on the fly while working on other documents. Paper adjustment is in increments of 1/60 inch and it will handle paper from 52 to 104 gsm.

Canon BJ-10EX

The Canon BJ-10EX is dark grey in colour. While bigger than the Citizen PN-48, it is still highly portable and also has the option of adding a sheet feeder ($95.00) which will hold about 30 sheets of paper. To use the sheet feeder you turn the printer on its back and swivel the rear foot 90 degrees. You then clip the feeder on. While the sheet feeder is not included in the pack, it is something that the Citizen printer doesn't offer.

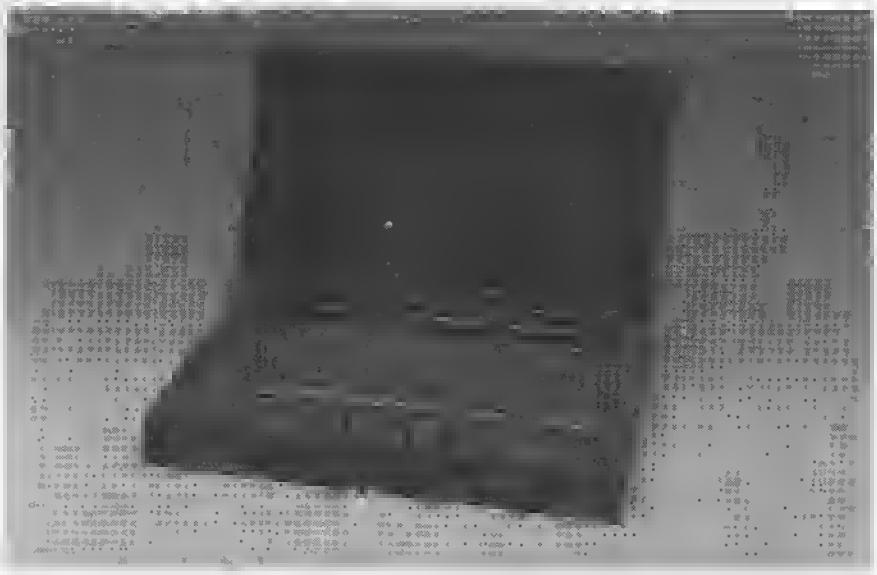
There was also an earlier release of the Canon printer called the BJ-10E. The "X" in BJ-10EX signifies extra Epson compatibility, and is the latest release version.

Printing on the BJ-10EX is achieved by a 64 nozzle print head. Different nozzles are activated depending on what is to be printed. All 64 nozzles work totally independently, and together they work to form the character or picture being printed. The nozzles squirt ink by means of small electrical impulses. Ink in the nozzles selected is heated by electrical pulses. The electricity in the nozzle creates small bubbles that quickly expand and shoot a small drop of ink onto the paper. When the ink in the nozzle cools it creates a vacuum, thereby drawing more ink into the nozzle and leaving it ready to go again. The Canon BJ-10EX is also rated as faster than the PN-48, with 83 cps at 10 cpi, (compared with 53 cps at 10 cpi), and 100 cps at 12 cpi, (compared with 63.6 cps on the PN-48).

On the front of the printer are four LEDs. These are power-on, on-line, paper and error. Along with these are five press switches, printer on-line, LF/FF, pitch, FWD ADJ and REV ADJ.

Another optional extra with the bubble jet (which is included in the price of the PN-48) is the Ni-Cad battery supply, which you internally mount from the rear after swiveling the foot 90 degrees. This battery pack takes about 10 hours to charge (compared with six on the PN-48) but the longer charge will output 30 sheets (compared with 20-25 on the PN-48), or about 45,000 characters per charge. The bubble jet will also charge on the fly.

The BJ-10EX also has a built-in head cleaning system which removes dust and paper particles from the head. The cartridge contains the 64 nozzle head, the ink chamber and ink, so when the ink chamber is empty you simply remove the entire head and discard. Thus every time you replace the cartridge you replace the head as well. The down side is that it works out a little more expensive. There



A robust unit, with a reliable track record - the Canon BJ-10EX

is one cartridge included in the pack, and you should get about 70,000 characters per cartridge.

There is a paper thickness adjustment for the changeover from paper to envelopes on the bottom. Paper is positioned, then you press LF to insert a sheet to the correct starting position.

High quality/Low quality is achieved at the press of a button. In low quality the printer simply uses less ink, thereby saving you trips to your local supplier. Working this way, as with the PN-48, there is no difference in speed between modes.

Like the Citizen, this printer will only do single sheet, black and white or grey scale printouts. It has a much larger buffer: 37k compared with only four kilobytes on the Citizen.

Paper advancing and retracting can be done at 2/360th's of an inch (compared with 1/60th inch on the PN-48). The bubble jet cartridge will output sev-

	Citizen PN-48 Notebook	Canon BJ-10ex
Size:	297.0(w)x90.0(l)x50.0(h)mm	310.0(w)x216.5(l)x47.5(h)mm
Weight:	0.97kg	1.8kg
(with battery):	1.17kg	2.07kg
Price R.R.P.	$799.00	$795.00
Battery Pack:	Included(valued at $150.00)	$95.00(optional)
Carrycase:	Included	$80.00(optional)
Sheet Feeder:	Not Available	$95.00(optional)
Emulation:	IBM Proprinter X24E	IBM Proprinter X24E
	Citizen GSX-series	Canon BJ-130E
	Epson LQ-500/850/2250	Epson LQ-510
Print Method:	48-Element Thermal Fusion	64 Nozzle Bubble-Jet
Ink color:	Black	Black
Repl. Carts:	$32.40(pack of 5)	$50.00
Buffer:	4 Kb	37 Kb
Resolution:	Up to 360x360 d.p.i.	Up to 360x360 d.p.i.
Noise Level:	Under 46 db	Under 45 db
Built in fonts:	Roman and Courier	Courier, Prestige, Elite
Transparencies:	3M PP2500	3M CG3480
Warranty	Two Yrs	One Yr

The BJ-10EX printer running in 360x360 mode

The PN-48 notebook printer running in 360x180 mode

en times the amount of characters per cartridge as the Citizen printer, but the Canon's cartridges are $50.00 and the PN-48's cartridges come in a pack of five for $32.40.

Although the PN-48 includes in the pack a carry case for free, it is by no means as flash as Canon's which will set you back about another $80.00

Canon's bag, however, is more like a miniature overnight bag. It is properly padded on all sides and is a combination of plastic, vinyl and material. It has a handle as well as a shoulder strap and an exterior pocket to put things such as your power pack in, as well as a couple of interior pockets. The bubble-jet will accept paper from 52 to 90 gsm, and has three built-in fonts, compared with two on the PN-48.

Conclusion

Both printers are well made and have been carefully thought out. They are a cheaper alternative to spending thousands of dollars on a laser printer.

Canon have produced a commercially available driver that produces 360x180 dpi printout for the BJ-10EX. You should be able to get this from your local supplier. Also there is a public domain driver available that will produce a 360x360 dpi resolution. If you purchase your BJ-10EX from The Hard Disk Cafe they will throw in both drivers at no extra cost.

For the PN-48 Notebook Printer you can use the EpsonQ driver to achieve 360x180 dpi resolution. Citizen realise that there is no correct driver available to produce 360x360 dpi resolution for Amiga users and are working on rectifying this problem. A driver should be available in May this year. The PN-48 includes an IBM disk in the pack which will be replaceable for the correct Amiga driver on disk at no extra cost.

All prices that I have quoted are R.R.P. and if you ask around, you may do quite a bit better than these. I have found myself using the PN-48 printer more than the bubble-jet, simply because of the size and convenience. I have been able to work on a project and then swing around with one hand, pick up the printer and print out my report.

The PN-48 has lots of extras thrown in - they are all going to cost you more money with the BJ-10EX. The Canon will cost you more money in the long run, with the cost of replacing cartridges. The BJ-10EX seems to do a slightly better job with grey scales and graphics, whereas the PN-48 does a better job with text. The reason is that the PN-48 uses a darker ink, which is ideal for text, but the Canon seems to work better with graphics. Personally I like the PN-48, the only down side being the lack of a sheet feeder and no 360x360 dpi capability as yet. ■

Professional Amiga User

DKB Amiga Dark Room $480

Pixel 3D

2D to 3D IFF Conversion

Ever had a great logo or picture that you would just love to slot into a 3D animation, but couldn't find a way? George Kimpton discovered Pixel 3D is the solution.

➤ If you're an old hand at creating fabulous 3D models, recreating a 2D logo in a 3D modeller would be no problem. Tedious perhaps, but achievable. However, if you're like me - an aspiring 3D artist who is still feeling his way - then you would probably retire frustrated at the atrocity you had created.

Pixel 3D makes it possible to import 2D images into a 3D modeller. It does this by taking a 2D picture, providing it is not in the HAM mode, tracing the outlines and then applying various optional effects. *Sculpt*, *Turbo Silver*, *Videoscape* and the DXF (*AutoCAD*) formats are supported on version 1.1. Anyone using other 3D formats can use *Interchange* by Syndesis to convert the finished file to the required 3D format.

Hardware Requirements

The manual provided is only a few pages thick, but it seems to cover all the necessary information and *Pixel 3D* itself is surprisingly quick and easy to run. It can be used on an Amiga 500, 1000, or 2000 with at least 512k of RAM installed - although the more RAM the better. Available memory determines the number of points which can be plotted. Initially the default is set for 7500 points but this can be adjusted for complex objects. I have tested *Pixel 3D* on Workbench 2.0 without any apparent problems.

Pixel can be run from the Workbench or CLI as is the case with many programs. From the CLI it is possible to set up a range of switches or flags which control just about all parameters of the programs operation.

Operation

Pixel 3D will plot the boundaries of an image in each foreground colour. It will operate on anything from two to 32 colours. HAM pics can be converted for use in *Pixel* with a program like *PIXmate*. Images with dithered shadings do not work too well. It's best to leave the shading effects to your 3D rendering program.

You are also advised that it is a good idea to use a paint program and tidy up your picture before conversion to get rid of odd pixels, as these will clutter things up with unnecessary outlines. *Art Department Professional* can automatically

remove isolated pixels using one of the standard operators.

During conversion, *Pixel 3D* scans the bitmap, creates line segments for each colour in the bitmap then outlines the segments and displays the resultant polygons on the screen. This allows you to keep track of the conversion at all times. On completion the main screen is redrawn ready for the next job. Incidentally, the resulting objects are not viewable except through your 3D rendering programs.

Colour Modes

Colour itself is treated in different ways. You can choose to switch off the colour gadget and then *Pixel* will only sense the outline of the object against the background colour. In the Videoscape mode however it is possible to specify the colours of the face, sides and back of the object using the Videoscape colour codes.

With the colour conversion gadget on in the *Sculpt* or *Silver* output modes, individual polygon boundaries are created with their colours preset by the original colours in the bitmap. In these modes and with colour conversion off, the objects are made entirely white allowing you to use the program colour selection rendering tools to control the final colours.

Extrusion

The extrusion process allows you to set the depth which is related to pixel size. One pixel equals one unit, so it is easy to control depth relative to other dimensions. It is also possible to control whether sides are built-in during the extrusion process. If the side construction gadget is off then you end up with a front and back separated by the extrusion depth. Side colours match the face colours.

For *Sculpt*, *Silver* or DXF modes it is also possible to select an outline mode in which no polygon faces are defined for the front or back. Polygon faces are however defined for the sides if side construction is switched on. This outline process is not available for *Videoscape*.

During conversion the screen displays the various stages of the conversion.

New Features

A new and very important feature of this version of *Pixel* is the Line Straightening gadget which allows you to control the jaggies. This effectively straightens out edges that would otherwise produce an unwanted staircase effect.

A Line Straightening value of 10 allows a tolerance of plus or minus one pixel from a straight or linear edge. A value of 20 allows two pixels. When this is in operation, *Pixel 3D* compares the previous and the next possibte edge plot points and applies a best fit algorithm before laying down the points. Support is now also provided for overscan images and super-bitmaps.

Conclusions

Certainly an easy program to operate and very useful in converting logos, brushes and text to a 3D format for use in 3D ray tracing programs. It is just a pity that it does not directly support conversions for *Imagine* and other programs so much in use today. Good value for money.

Version 2.0

Pixel 3D Version 2.0 is currently available in the United States. Although I was unable to look at a complete copy to put it through its paces after reviewing V1.1 above, from the brief took I had it certainly appears to be completely revamped.

The work screen is completely new with many more buttons or gadgets offering a much greater choice of options in manipulating 2D objects. There is a new range of extrusion controls and beveling of the edges is allowed. A quick experimentation with this brought some strange results.

Justification or auto-positioning of the object is possible along with the ability to spin it about a selected axis. Slice count and radius offset are also new. Improved line straightening controls are also provided.

A wider range of display controls provide greater versatility for observing the rendered object prior to saving. Adjustment of the viewing angle is very easy and effective, you just pull the outline box around until you have the view you want and hey presto, there it is.

Memory readout is available and allocation can be adjusted at will to satisfy the needs of the object being rendered. Support for a wider ranges of formats in the SAVE mode is now available with modules for *Lightwave 3D, 3D Pro, Turbo Silver, AutoCAD, Sculpt 3D, Imagine* and *Videoscape 3D*.

Without the Handbook it is hard to say just how great the upgrade is, but it sure looks terrific. Keep your eyes open for version 2.0.

Copy supplied for review by Hard Disk Cafe. Retails at $99.95.

■

Doing it with CanDo

After you bought CanDo and did the tutorials, were you left with the thought, "Where do I go now?" Simon Maurice explains the next step.

➤ The main trouble with *CanDo* is that even though the manual is fairly comprehensive, usable examples of what to do with the commands are very rare. This leads to a major trap - only using the supplied tool icons in the script editor to create the vast majority of scripts. This is fine if all you want to create is some uncomplicated presentations or video titles, but if you want to access the real power of *CanDo*, you must delve into its powerful scripting language.

I don't intend to teach you how to program *CanDo*, but to point out some of the more obscure commands that are useful, but not very well explained in the *CanDo* manual.

Notes for 1Mb Users

Most 1Mb users have seen the requester where *CanDo* calmly explains to you about how it has just run out of memory and is about to crash. Unfortunately, for *CanDo* to be used properly, you really need about two to three megabytes of RAM - more if possible. To use less memory, here's a few tips:

1. Use only one other font other than Topaz. Fonts take up a fair bit of memory.

2. Convert HAM images down to 32 colours (or less if possible).

3. Free all buffers that are not in use. Use the RAMSCRAM command if you want *CanDo* to remember the buffers that you have used, otherwise use the FLUSH command.

4. Use routines as much as possible. Other than being good programming technique, it does save a little memory and you end up doing less typing. Anybody got any more ideas to save RAM?

File Requesters

You've all seen the type of file requesters that programs (including *CanDo*) display when you're required to select a filename. These type of requesters are available from *CanDo* very easily. Just imagine that you have created a text editor and you need a script to allow users to select a file. Here's the function:

```
{Optional parameters}
"string" = AskForFileName
("filespec","Window Title", x, y)
```

What does this all mean? The filespec allows you to define the default file specification shown in the requester window. The remaining parameters are optional. Window Title is the requester title and x, y are the requester co-ordinates. String is the filename returned by the function. This will be NULL or "" if CANCEL was clicked. Following is a full script that allows a user to select a file name:

```
LET Message = "Specify Document to
Load"
LOOP
    LET TextFile = AskForFileName
(DATAFILE, Message, 0, 11)
    LET Message = "File must exist"
UNTIL EXISTS(TextFile) OR
(TextFile = "")
IF TextFile <> ""
    LET DATAFILE = TextFile
    LoadDocument
DATAFILE,"MyEdit"
ENDIF
```

This script starts off by defining the requester text as the variable "Message". Next we enter a loop which waits for the user to select a filename. The filename is stored in the variable "TextFile". If the file doesn't exist, the requester title bar changes to "File must exist". If the user clicks CANCEL, the script will end there. If the user selects an existing file, *CanDo* will then load the text into the document "MyEdit" and replace "MyEdit" with the document name that you are using. If you have done it right, you should get a requester that looks like Figure One.

Saving data is just as easy. Here's a complete script:

```
LET TextFile = AskForFileName
(DATAFILE, "Enter Save Name" ,0,11)
IF TextFile <>""
    LET DATAFILE = TextFile
```

SaveDocument "MyEdit", DATAFILE
ENDIF

Printing Documents

To print a document with a *CanDo* application is pretty much the same as saving one. Just use as the script:

SaveDocument "MyEdit","PRT:"

Just remember to replace "MyEdit" with the document name that you are working with. What this command does is to save the document to the PRT: device or the printer.device. One bug that I have found with *CanDo*, is when you print out a document, the last line is always missing. I'm not sure if it is only my printer setup or not, but if it happens to you. insert these lines before the above command.

MoveCursorTo ENDOF DOCUMENT
NEWLINE

All this does is to move to the end of the document and add one line with the NEWLINE command.

Talking Document

This is a bit of a novelty feature for most of us, but something that can be useful to those who have problems reading text files from the computer screen. The command is essentially the same as printing a document, but instead of sending the document to the PRT: device, it is sent to the "Speak:" device. Here's the command:

Figure 2.

Figure 3.

SaveDocument "MyEdit","Speak:"

One thing to remember. In order to save to some devices (eg. Speak:), the device must be mounted. This is usually accomplished in your startup-sequence.

NTSC/PAL Compatibility

Keeping with the idea that you have created the ultimate Amiga text editor, you surely want all Amiga users to benefit from the fruits of your labours. Notice when you create a window, its default height is 256? On an NTSC computer, only 200 lines of your window will be visible. If you change your window height from 256 to 200, PAL users will have to resize the window every time they open a window. There is a solution.

CanDo cleverly provides the following function:

« logical » = NTSC

This function returns TRUE when running on an NTSC machine. All you have to do is to create two identical Cards. On one Card change the window height to 200 and leave the window height to 256 on the other. On the startup of your program, all you have to do is to have the following script (or a similar one):

IF TRUE = NTSC
    GOTOCARD "NTSC"
ENDIF

You will be able to keep a common set of routines between the two Cards/windows.

Cutting Down on Buttons

Have you ever tried to create an application that needs a lot of buttons in a row? I recently began to create a Keno helper which allowed the user to keep track of the playing cards that they had by entering the card numbers into the program (which could be saved) then entering the draw numbers. The easiest method for entering the numbers would be to have the user click on the button corresponding the number they wanted to enter. Since there are 72 possible numbers in a Keno draw, that would require 72 individual buttons with scripts! Too much work (and memory)!

I eventually came up with the idea of having only one button which had lines drawn over it dividing it into 72 squares and I wrote the numbers in the squares. The result is the button in Figure Two.

For the button to look right when clicked, make sure that you set the button "Highlight" to "None" and to use the "Click" script in the button editor.

The only task with this is to determine the number that clicked on. At first, this may seem like a daunting task but this next script was how it was done:

```
LET ThisX = (MouseX - 30)
LET ThisY = (MouseY - 25)
LET XNum = THISX%35
LET YNum = THISY%15
LET YAdd = YNum * 7
LET YNum = YNum + YAdd
LET SNumber = XNum + YNum + 1
```

ThisX and ThisY are the variables assigned to the mouse co-ordinates at the moment the mouse was click was detected over the button. The reason for the subtractions is because the mouse co-ordinates given are relative to the top left hand corner of the screen. By subtracting the co-ordinates of the button top left hand corner, we now have the mouse co-ordinates relative to the button top left

hand corner rather than the screen.

By dividing the X co-ordinate and the Y-coordinate by the width of each column (35 pixels) and each row (15 pixels) the values given give the grid co-ordinates for the number (eg a (1,2) = 2; (3,6) = 43). The remainder of the script (shown here only to be complete) determines the number from the two grid co-ordinates.

"So, Where Do I Go Now?"

Deciding what to create with *CanDo* is just as hard as using any other programming language. The only way that you can know the limitations of *CanDo* is to use it. Try first recreating your favourite application. You may not finish it, but at least along the way you probably will have learned more about the way *CanDo* operates and how to get more out of it.

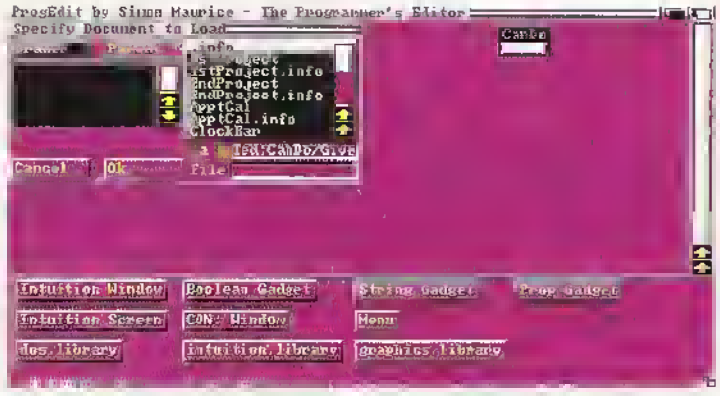


Figure 1.

Figure 4.

With *CanDo* you can create just about anything as long as you put your mind to it and are willing to persevere and experiment. I am currently typing this article into a text editor that I created using *CanDo*. It has all the functions that I need and, more importantly, I did it myself! If you do create an application, always add new features to it, even if they seem irrelevant to the program. You could only learn something by trying!

If you have any questions or comments about this article/*CanDo*, don't hesitate to write to me care of *Professional Amiga User*

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■

Invision Plus

Poor Mans Video Toaster

PAL users may soon have the choice of Video Toaster like add ons, with a Video Toaster like price. If you can't wait and you're after something a little cheaper, the Invision Plus could be the answer.

By Andrew Farrell

➤ Elan Design have coupled some familiar software with a not so familiar video frame grabber board to produce an interesting package offering a useful range of video effects. Originally known as Live!, the hardware component is a long board for the Amiga 2000. Four BNC connectors at the rear of the unit allow you to connect two video sources, with both signals optionally looping out the second two connectors.

What happens in the Amiga is where the familiar software, an enhanced version of *Elan Performer*, comes into play. Essentially, the Invision Plus allows you to perform real time digital video effects on a signal which is being constantly frame grabbed by the board. The results are nothing to fax home about, however with a little imagination, you can produce some interesting and possibly quiet useful effects.

Installation is straight forward. The board comes ready to run with a single video input. The switches to alter this setting are accessible without removing the A2000's cover. The 250K of software requires some help from the manual to understand. There are no pull down menus, just a few gadgets and an on-screen keyboard.

Although this arrangement is a little odd, once you're use to it, it's possible to choose different user configurable effects on the fly. The manual is well written, although the physical construction is something you have to see. It unfolds back on itself to form a small triangle which stands on your desk. You then flip the pages over as you follow the tutorial. How they expect you to read the backs of the pages remains a mystery.

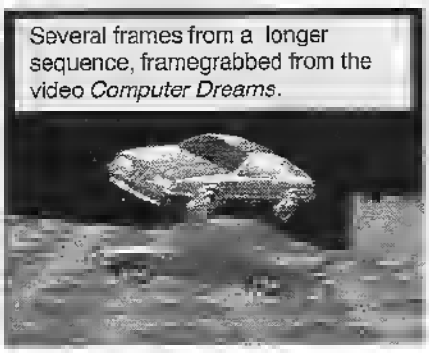
Operation

Whatever you feed into one of the video in connectors, is digitised in whatever resolution and number of colours you're working in, which will then determine the frame rate and overall quality. This then spews back out the Amiga RGB connector. The fun starts when you loop the signal out, and use it to sync up a genlock. The altered digitised image is then overlayed on the original source for some great music video like effects.

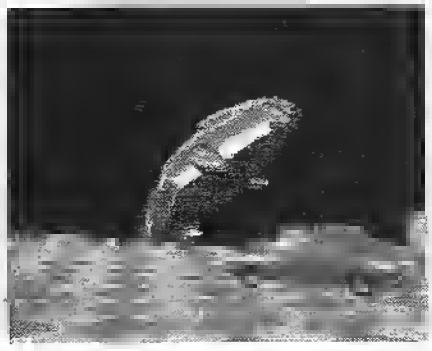
To invoke a change in the mode of operation, you simply strike a key on the keyboard which has assigned to it some special effect or change in the current graphics settings. A few presets are included which show off the potential very well. You can alter these and create your own custom settings.

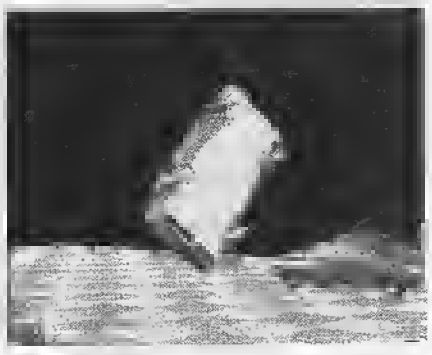
Some effects are controlled dynamically using the mouse. Once again, this is easily altered so that you could, for example, have the mouse alter contrast and brightness of your frame grabbed output and have the mouse buttons trigger a spin, roll or flip of some description.

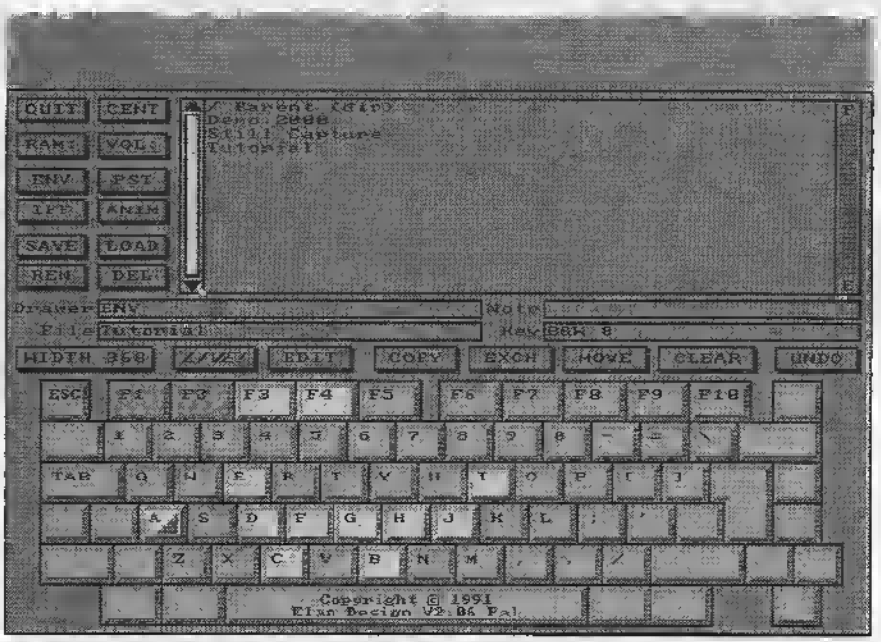
To perform any sort of serious work you would need to be very familiar with your settings. It is here the whole concept becomes rather clumsy. Since there is no way to sequence up a number of effects,

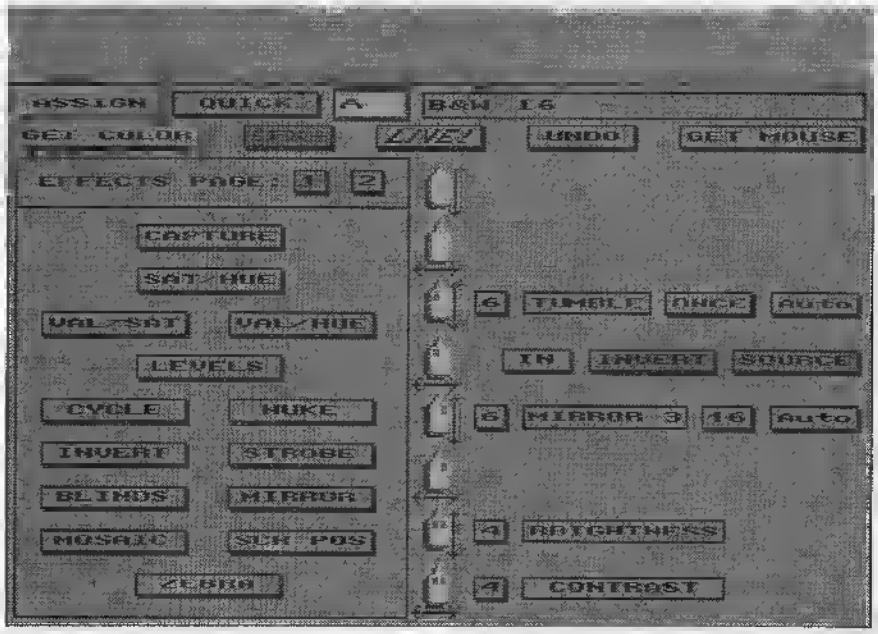


Several frames from a longer sequence, framegrabbed from the video *Computer Dreams*.









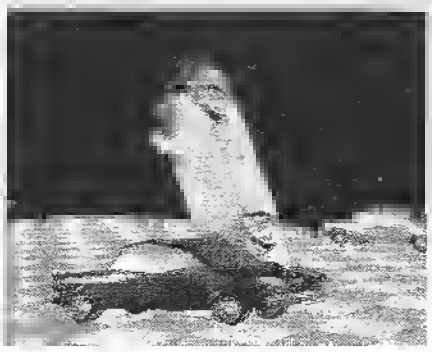
the results tend to look rather ad hoc. A wrong key press can produce an entirely unexpected effect which may take several seconds to perform.

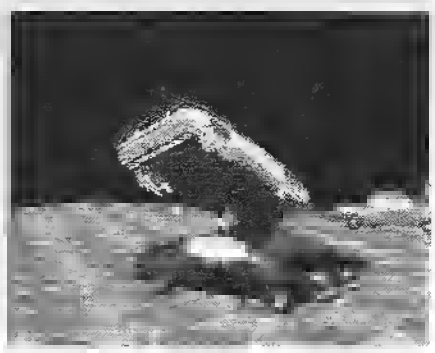
The frame grabber can be used to store a series of images, forming a short animation of whatever video is pumping into the board. You can grab as many frames as available RAM permits, depending once again on your screen resolution and number of colours or bit planes.

The results are reasonable - typical of most frame grabbers of this nature. VIDI produces similar results, however it doesn't offer the option of grabbing in colour (which looked fairly awful anyhow) or in working in hi-res (which is rather slow). With a second video source you can do some odd things with overlaying both images. You can overlay Amiga graphics on the frame grabbed source at any time too!

Conclusions

If the Invision board was full 24-bit or even DCTV quality, it would be an absolutely incredible device. However 16 colour hi-res looks rather sludgy and tends to be somewhat jerky. The lo-res modes work better and do offer some fun effects. However, at over $1,000 you're probably better off investing in something else. For the person who is specifically looking for these types of wierd frame grabbed effects, the Invision board has no competitors. It would certainly be a great asset in producing video clips filled with abstract looking images and Amiga graphics. Thank you to Hard Disk Cafe for the long loan! For more information, or if you want to buy the board, give them a call on (02) 979 5833. ■

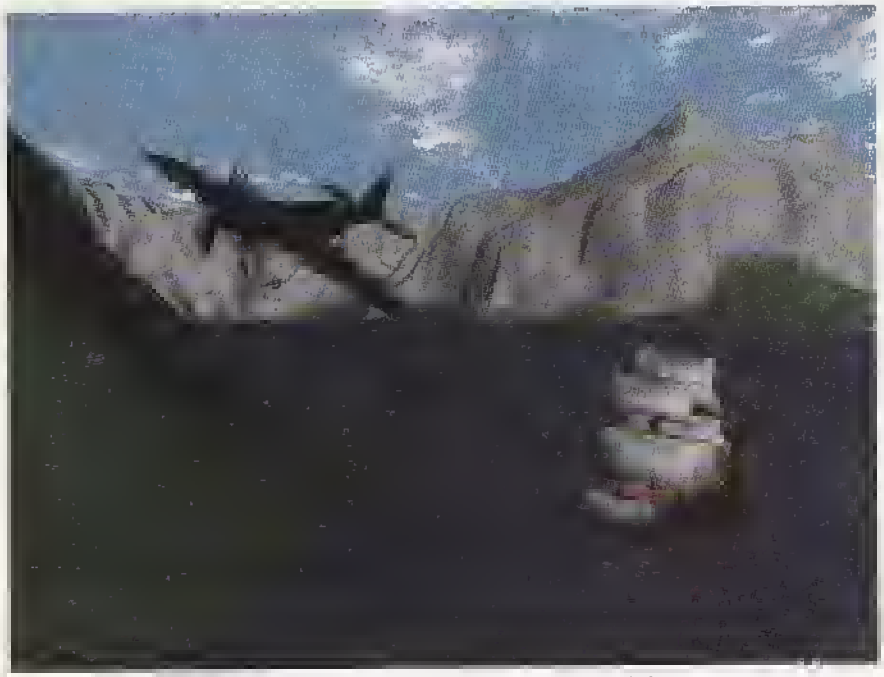




Just Imagine

John Rowe takes an in-depth look at version 2.0

➤ A little over a year ago, Impulse Inc. in Minneapolis U.S.A. shipped their long awaited sequel to the revolutionary rendering program *Turbo Silver*. This program was *Imagine* and it incorporated a complete rewrite and optimisation of *Turbo Silver's* rendering routines to produce in Impulse's words the "fastest rendering engine available on the Amiga". In addition they had vastly improved and added to the program's capabilities and user interface. They designed ease of object creation and motion control hitherto unknown to Amiga modellers and animators. In short, they set the industry on its ear!



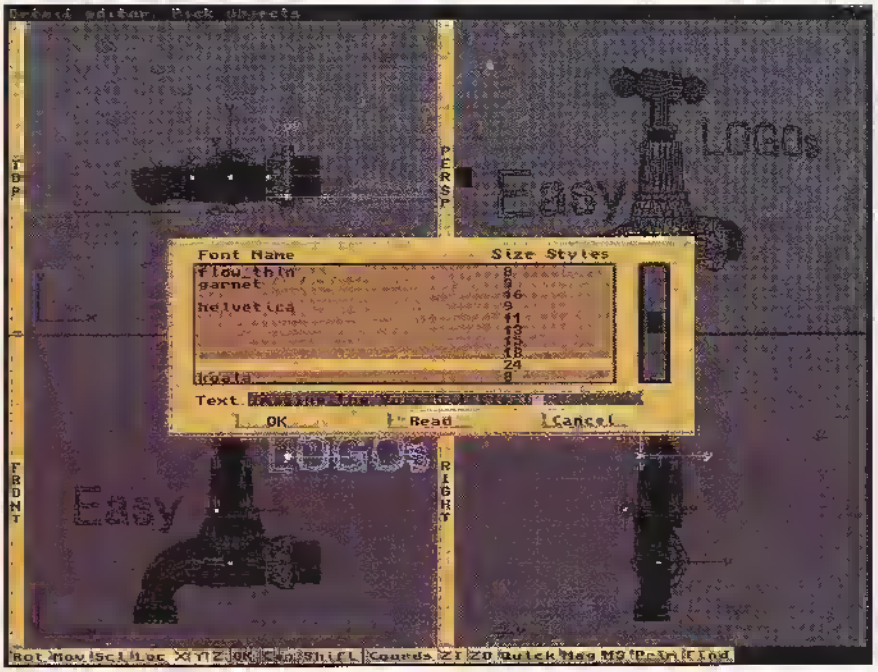
The P51 and the Galleon are two of the many objects supplied with Imagine 2.0 The background image was created with Scenery Animator.

Shortly after, Impulse released a relatively minor upgrade with bug fixes and some new features in *Imagine* Version 1.1. There have long been rumours of a major upgrade in the works. Now the wait is over! The best renderer just got better - *Imagine* Version 2.0 is now shipping. Was it worth the wait? Definitely! Does it fulfil all our wishes? Not Quite.

Upgrade

After delays with the PAL version of *Imagine 2.0*, Impulse finally began shipping about four weeks ago. The upgrade is available to all registered *Imagine* users at a cost of $100 U.S. and can be ordered by ringing Impulse and supplying your Mastercard or Visa card number. By the way, they don't take American Express, so save yourself the phone charges until you can borrow some understanding friend's Visa or Mastercard.

The upgrade arrived in a plain padded envelope containing the new manual and four disks. Disk one holds the integer version of the program for standard 68000 based Amigas. Disk two the floating point version for those with a math co-processor and accelerators. Disk three holds some sample Attributes (Bluefabric, Redplastic, Fog, Gold, Chrome and Glass). the Effects and Textures directories, a tutorial directory, some IFF wraps and some objects and of



Text Objects can now be easily and quickly created. Note the new User Definable Gadgets at the bottom of the screen.

course along with last minute Manual Addendum information. Disk four, more objects, including the most detailed cow I have ever seen. Strange but true!.

When All Else Fails Read The Instructions

The manual (there is now only one) has been completely rewritten by Mike Halvorsen and weighs in at about 300 pages of fine print. It is written like one big (as in huge) tutorial for someone who doesn't know the first thing about *Imagine*. Mike also intends it to be used as a reference for the experienced user, as it has an index.

Unfortunately, the index is not very complete with many key words not being referenced at all. Unlike the previous reference manual, it has a VERY brief table of contents in the front, very few headings and is not organised based on the program's functions. For the experienced user who wants to work out what a new menu item does, any reference to the said function can be very, very tedious to find.

Unfortunately they decided to put the approximately 100 pages of appendices at the very back of the book, after the index, making it necessary to flip from the back of the book towards the front just to find the index itself. It all goes to make finding something time consuming and more than a little frustrating.

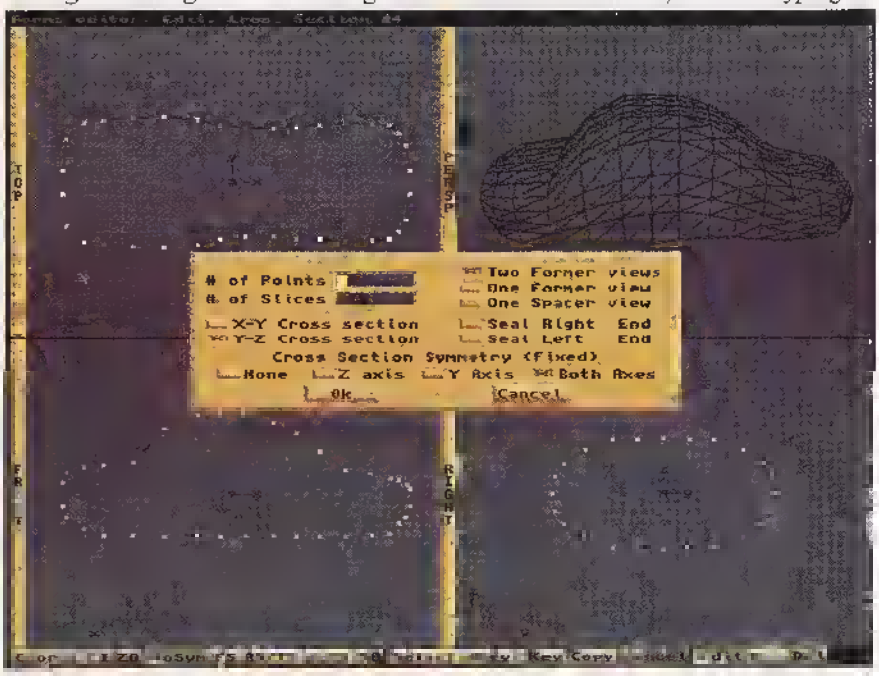
Ironically, the original 1.0 Reference manual was well organised but with too little detail and no index. We now have a manual with masses of information and an index, but very poorly organised for reference.

On To The Software

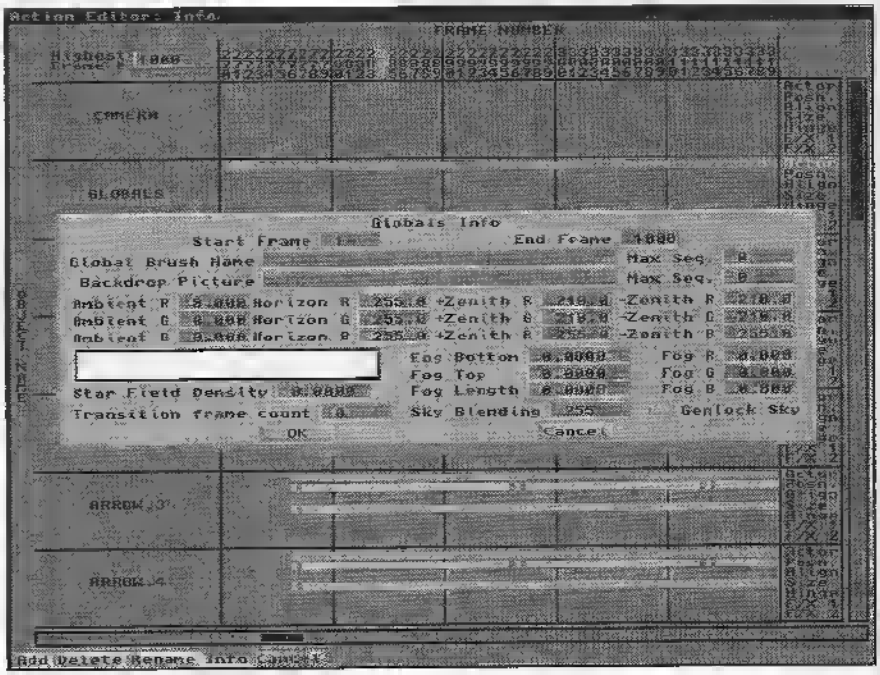
For those of you who have grown accustomed to being greeted by *Imagine's* impressive opening picture (I must admit I'm in this group) you will not be disappointed. *Imagine 2.0* opens with a beautiful gold rendered image of the word Imagine, once again in 16 colour hires interlace, but this time undoubtedly rendered with the program itself and in full PAL size. (Version 1.0's picture was digitised).

For those of you who couldn't wait the few seconds for the image to come up and discovered ways of removing or modifying it, you can now start again on finding ways to circumvent the new version.

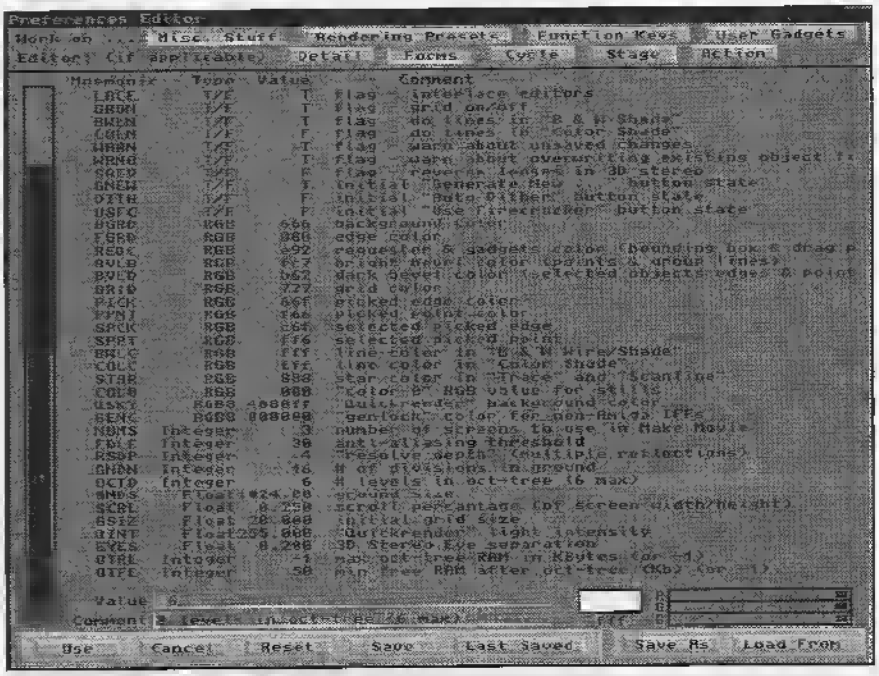
There are LOTS of new features, but many of them are not immediately obvious. The whole program has been given a Workbench 2 look, with 3D type gad-



The Forms Editor now allows multiple key slices, making it much more powerful.



The Action Editor is now separate from the Stage and sports a new Globals Requestor.



The new Preferences Editor is the key to customizing Imagine 2.0

gets to be found everywhere - pretty appropriate for a 3D type program hey? Shades of gold are the predominant colours which, coupled with the 3D gadgets, gives the whole interface a very professional look. I think they could have perhaps drawn the line at giving the menus a 3D look however. They are drawn in gold over a slightly darker gold offset down and to the side one pixel, giving the slightly blurry impression that I'm trying to read them without my glasses.

An Editor for Every Occasion

Imagine 1.0 and *1.1* had five distinctly different editors for handling five distinctly different types of tasks. In *Imagine 2.0* they have gone one better - or to be more precise two better - there are now seven editors. The brand new boy is the Preferences Editor which allows you to edit your Imagine.config file. This editor allows you to effortlessly alter you preferred settings to your hearts content.

All the old presets present in 1.1's config file are here, with the addition of a few new ones, the most obvious being the program's new user-configurable gadgets. The user now has control over a line of gadgets along the bottom of each editor, configurable to execute specific commands and functions the same way as the Function Keys are under *Imagine 1.1*. You can set up different gadgets for each Editor if you wish.

Also, if you set up a gadget to turn a particular feature on or off, the gadget stays appropriately in or out to indicate that feature's current state. Each gadget only does one thing however, they are not 'Macros'.

The Action Editor is now separate from the Stage Editor and has its own place on the Project Menu. Not a good move in my opinion as you now have to specify the frame number you want in the Stage Editor every time you come back from the Action Editor.

In Good Form

The Forms Editor has always given you the unique opportunity to create a 3D object from a 2D perspective; now it is even more powerful with several dramatic additions. You can now create multiple key slices to control an object's shape when viewed from above, at whatever point moving down through it you wish. With this greater control, you can use it as a sort of sophisticated interactive lathe or skin tool.

Mike Halvorsen demonstrates the use

of this through the analogy of cutting the head of a store manikin into thin slices from top to bottom. Each of these slices would represent a key slice in the Forms Editor and by putting each one in separately in this manner you could build up a head in Imagine. Anyone have any spare polystyrene heads around? The Forms Editor also gives you the option of using single former or spacer views, for simpler object creation.

Down to Details

In the same way you could move, rotate and scale whole objects under the previous versions of *Imagine*, the Detail Editor now has interactive point manipulation for moving, rotating and scaling of groups of points within an object. Feedback is given in the title bar as to your current angle of rotation or degree of scaling. All paths are now spline based and are fully editable from the Detail Editor.

You can define subgroups of faces within an object, to make it easier for you to change the attributes of certain parts of an object, or to pick specific faces, edges or points for extra manipulation. In Pick Points and Pick Edges Modes, under the Pick SubGroup menu item you can further specify that you want just the border points or edges of a particular subgroup, their inner points or edges or the whole subgroup.

You can also change the Phong shading on certain edges merely by picking them and telling *Imagine* to make them soft or sharp. You can conform an object to a path in the Mold requester. The only reference I can find to this in the manual is Mike saying he'll explain it later... You can tell *Imagine* to pick a range of points, edges or faces in an object by specifying the starting and ending point, edge or face and the step. So picking every second face in an object for example, to alter its attributes is simple and painless.

You can now add a Font object! You tell *Imagine* your text and specify which Amiga font and which point size and it builds the object in a flash! It doesn't do too bad a job either. In the Attributes requester the program now supports real fog which varies with depth, so you can easily create clouds or foggy scenes with glowing spotlight beams. Pretty neat! If you save your attributes to a separate file it now automatically saves any brush map or texture settings as well. Brushes can be specifically mapped to a subgroup if you wish, but you are still limited to four maps per object. Slice, I'm sad to say, can still be a pain, but the manual promises it to be less so.

The Texture list has grown and now consists of: Angular, Bricks, Camo, Checks, Disturbed, Dots, Grid, Linear, Pastella (sort of Camo but with gradual colour changes), Spots, Radial, Waves (realistic water here we come) and Wood. I hardly ever touch the Cycle Editor, but it looks just about identical to the previous version. Nothing to speak of here, but probably some improvements under the surface.

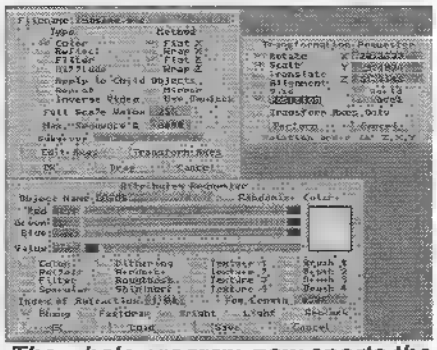
Lights, Camera, Action!

The Stage Editor now includes QuickDraw options so there is no more need to jump between Stage and Detail to enable speedup of the drawing routines in the Stage Editor. You now have functions to reset the relative position and alignment of hinged objects. A Camera Retrack hot key has been added to make life a little easier.

The Action Editor supports two F/X lines per actor and now includes housekeeping functions to sort and find Actors by name. You can specify a sequence of global backdrop pictures or global brushes much the same as you could previously specify a sequence for brush mapping onto objects in the Detail Editor.

There are some new effects, bringing the list to : Explode, Fireworks (like Explode with added 'Hollywood' twinkle and gravity), Flash (a simple effect to allow you to flash lights on and off), Grow, Ripple, Tumble and Boing (make objects stretch and contract as they bounce up and down).

All editors include a Quick Render option which allows you to do a render of a type and size which you pre-specify under the Preferences Editor. The Quick Render then produces an image from the same view as shown in your Perspective window and with automatic lighting. You can vary the angle of this lighting prior to rendering as you wish.



The whole program now sports the Workbench 2 3D look.

Provision for the Graphics Displays of Tomorrow

Imagine 2.0 directly supports Digital Creation's DCTV 24bit display hardware and will thus render DCTV compatible images and anims. While DCTV supports its 24bit images encoded into three or four bitplane images, *Imagine* only creates four bitplane versions - whether interlace or non-interlace as you wish. I have been able to render DCTV images in image sizes as small as 248 horizontal pixels by 32 vertical pixels, and still display them through this incredible hardware add-on. *Imagine 2.0* will also produce stereo 3D images for use with *X-Specs* if you have them.

The manual says the renderer's speed is virtually unchanged. I have also found a few bugs: Function Keys don't work in the Action Editor, and the Merge Function in the Detail Editor doesn't eliminate duplicate points as it did in version 1.1. Sadly, no AREXX support yet, we'll just have to wait for *Imagine 3.0*!

To Sum Up

In short, it's worth your upgrade bucks guys! If a picture is worth a thousand words, then there's quite a few million words waiting to be produced by this amazing program. All you need is *Imagine 2.0* and a little Imagination... ■

Production Pixels
Hands on Imagine

David Boddy, one of Australia's foremost Amiga animators, takes us step by step through a recent project using the now popular rendering program, Imagine.

➤ I have been using the Amiga professionally for creating artwork for video productions for almost five years. My interest in the Amiga began in the very early days. The only Amiga for miles was a 110 volt NTSC Amiga 1000, which happened to be in a computer shop where I was working. Those were the days when I was armed with 256K of RAM and Deluxe Paint 1.

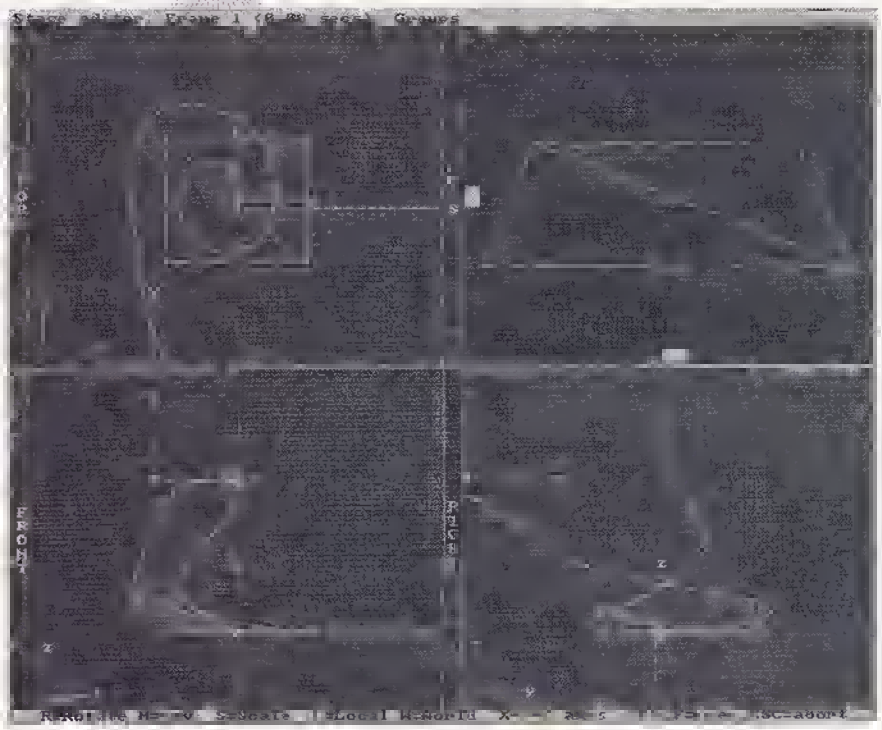
Today I use a whole variety of computers (including Macintosh and MS-DOS), but for my video graphics, the Amiga is the only choice. I work on a freelance basis for a local advertising agency, Emmanuel Stefanou & Associates (ES&A). My role is primarily to produce graphics for ES&A's video productions, which can range from corporate videos to television commercials. Computer graphics are not created to replace video footage, but to complement or add flavour to it.

So 99.9% of the graphics I create are of a commercial level. The other 0.1% is usually testing software functions.

I've seen many aspects of the Amiga come of age. Emmanuel and I were the original pioneers of professional Amiga video production in this country. We wanted to use our graphics in TV productions, but first we had to satisfy the technicians in the television studio. The only knock back was that the Amiga's video output was not broadcast quality; if we could supply a broadcast quality signal they would agree to let us air Amiga graphics. They thought that would keep us quiet, but a week later the first PAL broadcast quality genlock was available. A prototype was made available to us and we were up and running. ES&A computer graphics has since produced a whole variety of television commercials using Amiga graphics, a number of which consist entirely of Amiga graphics.

We have recently added an Amiga 3000 to the family of Amigas we have bought over the years and I have to say it is an excellent machine. With the scale of the animation and modelling I create, the 2500 with seven meg of RAM running *Sculpt 4D* hit its limits very quickly. But the 3000 with two meg chip RAM and 16 meg of fast RAM gives a designer like myself fewer restrictions to work under. It's also very fast.

Remember that I too started with 512K of RAM, upgraded to two meg and



thought it would be plenty. You tend to work to your means and I would suggest to anyone wanting to render 3D models, to buy as much RAM as you can afford. It's also nice to be able to load an animation for a 30 second television commercial into *Deluxe Paint* for touching up, even if the Anim file is 12 meg.

Now the biggest restriction to the quality of the animation I produce is time. The hardware/software is much faster, more powerful and more productive, but clients always want things yesterday.

Just Imagine that... Christmas 1991!

Shortly after the upgrade on the Amiga 3000's RAM, I loaded *Imagine* for the first time. The Commodore Christmas commercial was on the storyboard, with deadlines for the final renderings already set.

Loco Motion

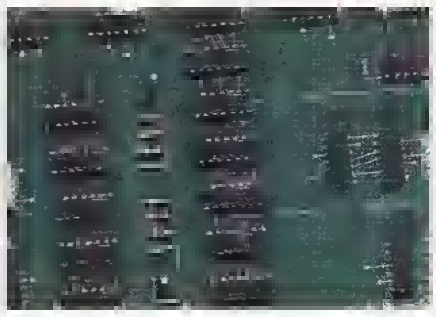
The idea was to have a glowing hot circuit board from which glowing components would morph out. The board would cool and change to deep green, components would cool and also change to true colours. The board would move back to reveal additional boards, the boards then morphing into a sphere. The sphere has *DPaint* animation mapping on it, to resemble the Earth. Finally, the Commodore logo breaks through globe and comes to rest.

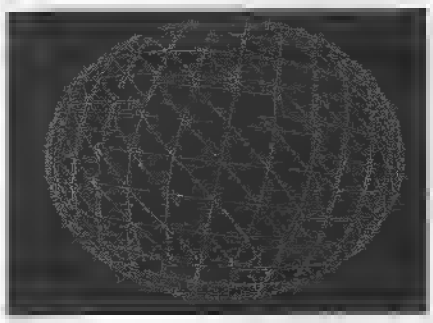
Modelling

Objects were modelled initially using *Sculpt 4D* and converted into *Turbo Silver* format using *Interchange*. *Imagine* would not read these files until resaving the objects using *Turbo Silver* (lets hope *Interchange* gets an *Imagine* module).

The Cycle editor is something that is also unique to *Imagine*. Construction of key frame animated Skeletons is very easy. Each bone in the skeleton can be a different object that can be rescaled and repositioned during key frames. Image mapping is also first rate, whether you need auto camouflage, from desert to jungle, as well as marble, wood, brush or anim.

The main circuit board was designed not to look like an Amiga motherboard, but to be more generic, so it could be used to promote any Commodore Computer.





The commercial required an earth globe for the final frames, and *Deluxe Paint 4* was used for over 100 frames of animation to be mapped onto the sphere primitive.

Staging

Motion paths for Lights, Camera and Objects is a breeze with or without Auto-Tracking of Objects or other paths.

But the morphing from different Settings for Objects makes *Imagine* one of finest animation rendering packages for the Amiga. Turning an objects properties from reflective gold to a dull green during key-frames is beyond the average Sculptor.

Rendering

At time of writing this article, the Amiga 3000 had rendered over 120 frames out of 245 in 10 days. I generated every second frame on the first pass so that an accurate final completion time could be calculated.

Problems

Imagine gave me plenty of trouble with bad documentation and functions which have undocumented or misleading results.

Imagine's interface was easy to learn yet all functions need to be tested for the animator to know the real capabilities available. The manual does not give you a full picture.

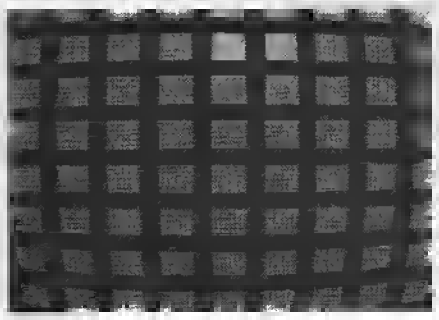
Continuing on from *ProAmigaUser March/April* 91, which raised some interesting bugs, the *Imagine* reference manual in the introduction states "The precise center of the *Imagine* world is 0,0,0. There is no limit to the extents of any axis, either positive or negative." This is incorrect! *Imagine* has a LIMIT of 1000 units + or -, the same as *Turbo Silver*.

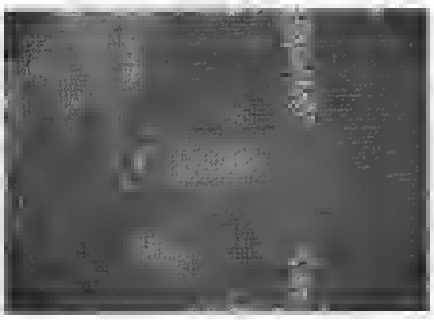
Cameras, lights and paths can be beyond this limit but object faces will not render at all in Ray Trace mode, although they do appear in scan-line renderings.

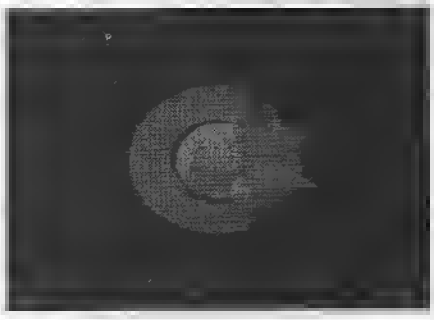
In Staging, objects can only rotate past 180 degrees in two key-frames if you use the FX 'Rotate' instead of using ALIGN.

The documentation with *Imagine* is the only bad point. The software is excellent but the lack of technical reference, puts a steeper gradient on the learning curve. Well, the results speak for themselves...

■

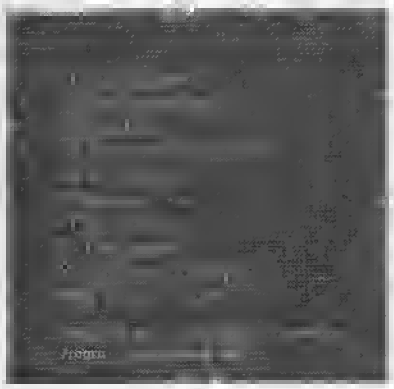






THE BIG *Alternative* SCROLLER

Quick and Dirty Video Titling



Main Menu.

Editing text ready toscroll.

➤ *The Big Alternative Scroller* (*BAS*) is a program to make vertical or horizontal scrolling text, mainly useful in genlocked video applications but also helpful in presentations. This is what it does. This is all it does. This means it's very easy to use. In fact, it comes not in a box but in a little folder, with a warning inside pointing out that the enclosed software is so simple it doesn't need a manual. There is, however, a quick reference sheet enclosed, which along with the on-line help inside *BAS* is plenty to get even the dimmest of users going.

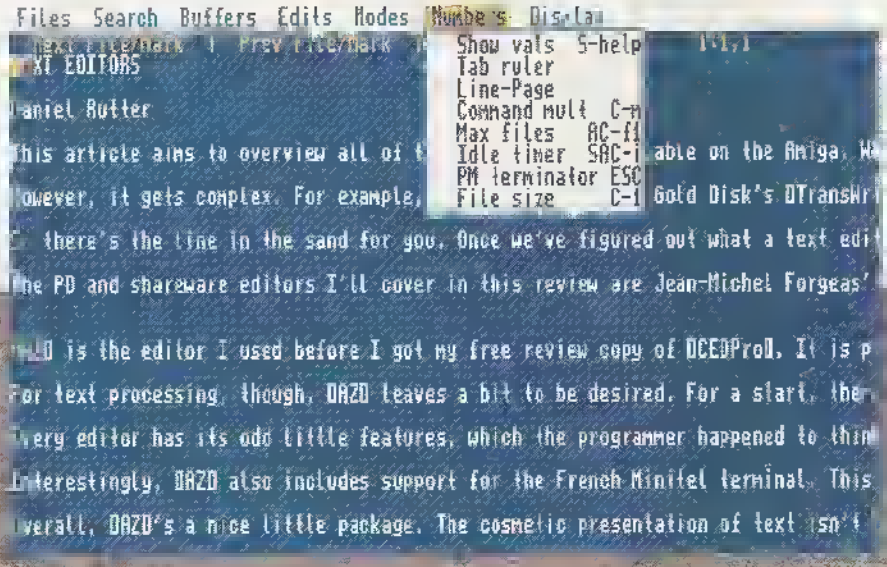
The disk is copy protected, so hard disk installation and multitasking are out, but this isn't a killer, since when just pumping stuff though the genlock to tape you're not likely to have much else running. Everything is keyboard controlled, all the text is big and pretty, the whole thing fits in RAM. You can adjust colours, shadow position, font (from 20 built in, all good, usable text), speed, spacing and margins.

The inbuilt editor for scrolling text is simple and effective - I wouldn't use it to write a novel, but for a couple of hundred words it's perfect. You can also load prewritten text from disk, and save it back, but the text must be on a disk formatted from within *BAS* - it won't read standard DOS.

The only drawbacks are slight flicker, since *BAS* always uses an interlaced overscan screen, the abovementioned lack of multitasking, DOS compatibility or HD installability. All the other faults the reference card, with appealing honesty, lists on the back. You can't mix fonts in one file. You can't import fonts from elsewhere. And it won't make you a cup of tea. All these problems Alternative Image Productions promise to fix in the next version. Until then, we're stuck with *BAS* as, quite simply, the easiest to use simple text-scrolling-and-nothing-else package on the market.

While the program has been around since 1990, Australian dealers have only recently been shipped supplies, so there should be no major availability problems. If this is what you need, buy it - it's a gem. ■

Which Text Editor?



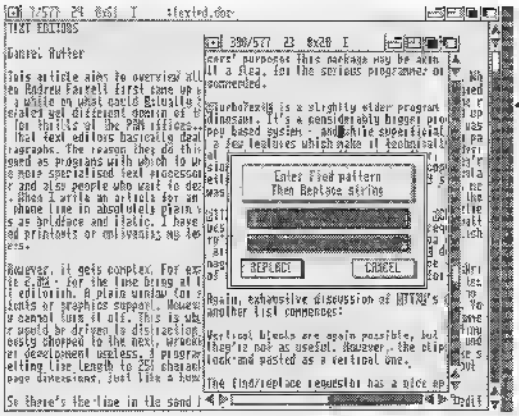
UEdit

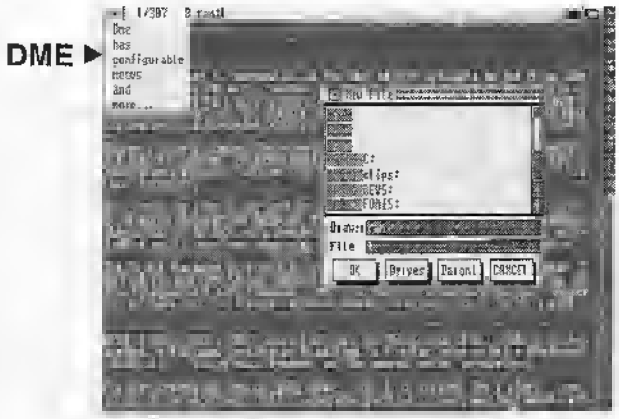
If you need a robust text editor for editing mountains of text - be it program code or prose, a text editor could be the answer. Daniel Rutter compares the leading choices.

This article aims to overview all the text editors available on the Amiga. When Andrew Farrell first came up with the idea for this overview, he and I argued a while on what could actually be called a text editor and what fell into the related, yet different, domain of the word processor.

The eventual definition we settled upon was that text editors deal with documents line by line, rather than in paragraphs. They are not expressly designed for programming while, to write letters, articles or what have you - they're more specialised text processors, intended for use by programmers in particular and also people who want to deal in unformatted text.

When I write an article for an Amiga magazine, I submit it on disk or down the phone line in absolutely plain vanilla ASCII, usually without even such niceties as boldface and italic. I have no great interest in producing prettily for-





matted printouts or enlivening my text with graphics - that's the job of the publishers.

However, it gets complex. For example, I'm writing this on Gotd Disk's *TransWrite 2.0* - for the time being at least. *Transwrite* at a glance looks highly text editorish. A plain window (or several), copious menus with exotic options and no fonts or graphics support. However, *TransWrite* has word wrap, continuously. You cannot turn it off.

This is why *TransWrite* is not a text editor; a programmer would be driven to distraction by this package, as over-long lines were continuously chopped to the next, wrecking code structure and rendering the program under development useless. A programmer couldn't even do something clumsy like setting line length to 256 characters, since *TransWrite* only deals in printout page dimensions, just like a hundred other word processors.

So there's the line in the sand for you. Once we've figured out what a text editor actually is, there are two further domains within this definition relating to the copyright status of the programs. These are commercial and freely distributable, the latter category encompassing freeware, shareware, public domain and so forth.

Commercial packages tend to be more comprehensive and better documented, but this by no means implies that the far less expensive alternatives are a lot of useless and incomprehensible cripples. In fact, many people will find that the good old 80/20 rule, which states that 80% of program purchasers use only 20% of their features, will definitely apply in their case. There's no point buying some enormous commercial package, most of which you'll never use, when a perfectly adequate PD alternative will cost you less than $5.

The Choices

The PD and shareware editors I'll cover in this review are Jean-Michel Forgeas' *AZ1.5*, from Fish 346, Matt Dillon's *Dme1.45* from Fish 530, Darren M. Greenwald's *QEDβ0.21* which can be found on many compilation disks and BBS's, Mike Haas' *Textra* from Fish 239 and Rick Stiles' *Uedit2.6h* from Fish 539. Then will come the two commercial heavyweights left in the arena since the unfortunate demise of the mighty *Professional Text Engine - CygnusEd Professional Release 2* (*CEDPro* from now on), written by CygnusSoft with a manual by ASDG, and Oxxi's *TurboText* (*TTX*).

Not reviewed are dinosaurs like the various ports of EMACS and Commodore's poor old *v1.x ED*; while these packages are still quite powerful, the more recent efforts do all they can and more, and do it faster and more simply.

Az

AZ is the editor I used before I got my review copy of *CEDPro*. It is powerful, quite quick, dead easy to use and has a comprehensive manual, which is designed to be read through *AZ*. You open the index file in one *AZ* window and the manual in another, and browse, possibly while working on something else in yet a third window. Not that you'll often need to refer to the manual anyway, as everything in *AZ* is well designed and hangs together logically. It's small enough to be used without great difficulty on floppy based systems, and for general coding is excellent.

For text processing, though, *AZ* leaves a bit to be desired. For a start, there isn't any word wrap. You can set long lines, but you have to hit return every time for a new one. Also, if you should want to join two lines by placing the cursor at the beginning of the second and hitting backspace, you'll annihilate any text which, after the joining, extends past the right margin. Not nice.

Every editor has its odd little features, which the programmer happened to think were a good idea. *AZ* is not short of these quirks, of varying usefulness. There is a simple iconify function for screen tidying. HEX can be directly inserted, to simplify injection of oddball characters without doing the control-alt shuffle. The case of all characters in a block can be switched. Matching brackets can be found - either for a single instance or throughout the entire file as part of the debugging process. A block can be easily executed as a CLI command. A deleted block can be rescued from oblivion with the undelete option. External files can be pasted to or copied from, allowing easy file merging.

Overall, *AZ's* a nice little package. The cosmetic presentation of text isn't bad, on a window on the Workbench screen; scrolling's swift, all the gadgets do what they should; it is in general a highly usable editor.

Dme

Dme is far more an editor of the old school, as the first-time user will swiftly see when the right mouse button is pressed. All it does is iconify the window. *Dme* initially expects all its commands to come either from one-shot keypresses or via a command line accessed with escape, just like Commodore's *Ed.* Yeuch, say the Amiga fanatics, while all the old EMACS hands are now dancing on the tables and twirling football rattles.

But wait! By using the MENUADD command, menus can be constructed by the user to do whatever the heck the user wants. These menus, along with a totally reconfigured keyboard if desired - up to 64 possible definitions per key, or 128 if you've a three button mouse - can be saved as a config file.

Granted, *Dme* does not leap out and say howdy, but it is a very powerful package nonetheless for the programmer - and not too bad for the writer, either. The beauty of these sorts of low-level editors is that there is a powerful macro language built in, without having to fiddle with Rexx ports (although *Dme* supports it, see below) or have anything more to buy.

You can construct processes of baroque complexity and execute them simply; the tradeoff being that raw beginners find *Dme* about as friendly as a keg of scorpions. For the experienced user, it's great.

Dme supports ARexx to the point of allowing ARexx macros with none to two arguments to be executed via three simple commands, although more arguments can be entered with minimal gymnastics. With the distribution come a handful of macros, mainly of a "hello Rexx, are you really there?" nature rather than being particularly useful. These macros may contain *Dme* commands or call other macros, and may be executed via the <escape> command line or mapped to keys. There is, however, no idiot detection, so it's quite possible to write two macros which call each other and watch your Amiga vanish up its own fundamental orifice. Error handling is also a tad dodgy.

Dme incorporates a feature most programmers will appreciate - CTAGS. This allows an entered sub-routine name to, via a Tags file in the current directory, be found in a likewise entered file, the file containing it loaded if necessary, this file brought to the front and selected and the cursor positioned at the first line of the routine. Thus can a programmer easily trace subroutines all over a multi-file project.

The related REF command allows, with a single keystroke, online help to be brought up for any keyword (provided such help is actually there and in a file called DME.REFS), avoiding hours of manual-flipping.

Dme's included macro language allows full If/While/Else loops and numbered command repetition for all its commands, encompassing window resizing and other unusual features as well as the usual block and string operations. All in all a very powerful editor, and small enough, again, to cause floppy users no great consternation.

QED

QEDβ0.21 used to be a ShareWare product; it is now CrippleWare, in which the freely distributable edition has some features removed to strongly encourage the freeloaders out there to send the folding stuff. In *QED's* case, the only handicap is a modification to the save feature which only allows files smaller than 10K to be saved. The author, Darren M. Greenwald, does not demand you send him his registration fee (you're welcome to use the crippled version).

If you do he will send you full documentation for *QED's* command line language, ARexx interface, keyboard mapping, along with the latest *QED* version and a key file to allow all later PD versions to be decrippled from the comfort of your own computer. Cannily, Mr. Greenwald points out that the decrippling method may be changed from time to time, with only registered users being told about the new key...

Incidentally, the age of this demo version also means the author's address and the rego fee are now out of date; the fee is now US$30, and his address is now 462 Devon Court Downingtown, PA 19335, U.S.A.

Despite being the oldest of the editors reviewed here (the edition I tested was dated 5th August 1989), even the freely distributable version of *QED* is still perfectly adequate for everyday work, and phenomenally fast on search and replace, beating easily even the mighty *CEDPro.* In fact, the 14.5 second search/replace time *QED* managed on a plain 68000 machine was a shade faster than *CEDPro* could stump up on the ravening monster 68040 A2000 in the *PAM* office!

Mind you, this speed is achieved at the expense of any visible indication at all of the state of the search operation, but it's so fast that if it hasn't finished in five seconds on the vast bulk of files you know something's amiss anyway.

Apart from this blistering speed, *QED* isn't short of other nice features. Multiple windows are supported, as are vertical blocks. Thus you can grab any rectangular chunk of text and transplant it. This feature is not quite as powerful as *CEDPro's*, but neither is it as expensive. There is a complete macro language built in, with every command enterable via these or from the simple "Command Mode" window accessed with the escape key. A new CLI can also be launched from within *QED*, but has problems with crashes on exiting.

QED's documentation is excellent; the freely distributable version's included doc is more than enough to get the novice up and running, and the docs that come with the registered version uphold this standard.

QED's keymapping feature is very good, allowing emulation of familiar editors and creation of custom keymaps for specialised functions. It is also possible to execute many of *QED's* functions either globally or, if a block is marked, on that block. This applies to, for example, the ERASE command to blank an entire file, following a requestor confirmation. If a block is marked, you will only nuke this chunk, allowing you to cut it out without changing the text in the clipboard. It's not an earthshaking feature,

but it don't hurt.

There's a a complete ARexx interface, from which virtually all features can be controlled. Again the Command Mode window comes into play, for launching ARexx processes, *QED* macros - easily recorded using the ARexx record option, and faster - or DOS commands without leaving the editor (although I've always been a little dubious about DOS from within other programs on a multitasking machine).

Text scrolling is quite quick, thanks partly to a proportional gadget which may be toggled. The ubiquitous right-side slider can be ghosted, making it inactive and avoiding the processor overhead needed in updating it.

On the downside, *QED's* word wrap is of the "Simple" variety - if you're typing and hit an end of line (EOL), your word will hop to the next line, no problem. However, if you jump into the middle of a paragraph and start typing in the middle of a line there, that line will just get longer and longer until the type cursor again hits the EOL, when the line will get chopped in two, a new line created and the amputated bit plonked onto it with your cursor at the start. Paragraph formatting hence gets ugly, but there is an option to tidy them up. All this, however, matters not at all to programmers.

Overall, *QED* is missing nothing. Many of the features of the giant commercial packages realistically aren't likely to be of use to most of the people most of the time, so why pay a premium? An excellent editor.

Textra

Textra lacks many of *QED's* features, but is Freeware - like PD only the author retains copyright and imposes distribution terms, usually about maximum applicable fees. What you're left with is a quite competent, very well documented editor which is, again, quite enough for the amateur programmer or similar person. It's not much cop as a writer's tool, since it lacks word wrap, but if you're after a free editor to kickstart your programming career, *Textra's* perfect.

In fact, *Textra* has no features beyond simple find/replace, cut/copy/paste, load/save and tab set, although it will allow multiple files open. All its features are exhaustively explained in the documentation, so that even the rawest beginner can get up and running with minimum fuss.

Scrolling's smooth, crunched size is the smallest of the lot, and generally *Textra*, though the baby of this collection in features, is by no means a toy - and the price is right, too.

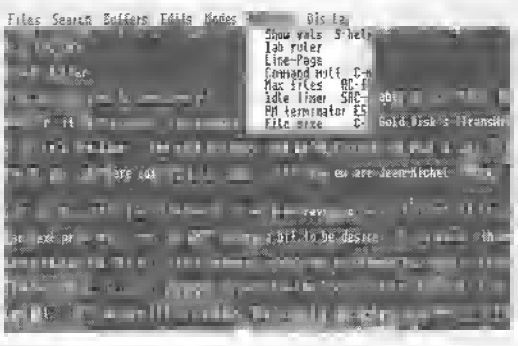
Uedit

Uedit is another kettle of fish. I almost didn't include it in this comparison, for one major reason - it runs on an NTSC screen, with no option to work in a Workbench window. In its favour, however, is the fact that the author, Rick Stiles, has written it also on the IBM, which means "bi-lingual" users can enjoy the same editing environment on both machines, without fussing around with other editors' keymapping routines.

Uedit is ShareWare; the distributed version is also mildly crippled, being only able to load four files simultaneously (instead of as many as memory can hold), won't save configurations or macros (*Uedit* calls them "learned sequences"), and can't exchange buffers with other *Uedits* running or other Amiga programs. None of these cripplings make the program unusable, and there is in fact an option to send off only US$15 and receive a copy of the uncrippled version to use in good health, as opposed to up to US$65 for the full version with bound manual. There are $55 and $50 versions, too, with less pretty manuals, as well as a healthy list of options, including a version with spell-checker, one for developers and one which can print proportional fonts.

This shareware arrangement is the most complex I've seen. Existing users get a $15 commission on any registration application that comes in bearing the serial number of the freely distributable version they got when they registered. Virtually everyone should be able to find a version of *Uedit* and its options listed there to suit their needs.

There are some obvious IBMisms about *Uedit's* look and operation - it's easy to see that Mr. Stiles either wrote the first version on an IBM and ported it or just hasn't quite figured out what all these nice Amiga frills do. Gadgets don't exist; the mouse can be used to operate menus, scroll text and so forth, but whenever a requestor should pop up, you just get some odd text which is clickable but obviously doesn't make much use of Intuition.



◄ UEdit

Textra ►

Likewise, any simultaneously opened files can't be kept in windows, but only flipped between one at a time with next/prev click areas or menu selections. Also included is Primitive Mode input in the great tradition of user-vicious programming, where you hit escape to begin entering a command, and escape to end. Of course, there are umpteen available commands - *Uedit* is a powerful package - but the presentation leaves a bit to be desired.

That said, *Uedit* isn't as horrible as first impressions suggest. It features a helpful "teach mode" which, after you've overcome your ingrained Amiga mannerisms (which tend to cause rather unexpected results), gives online help about every single key. Also helpful is something called Hypertext, which allows the user to navigate around a database of words related to each other in various ways - the structure of parents, offspring and siblings, not to mention the file structure used to make your own working "hyper-base" sounds complex but is actually quite easy to pick up, thanks to a demo base built in which, logically, explains the whole idea in Hyper format.

Uedit is another utterly configurable editor - everything can be shuffled and changed and edited to your heart's content, and various emulations are available from the author for those unwilling to roll their own (but willing to register). For home users, this is nothing but good, but in an office situation this degree of configurability can result in 15 versions of the same program, all mutually incomprehensible; so much for standardisation...

Uedit supports ARexx, but does not appear to have its own extensive command set. Running ARexx macros from within *Uedit*, though, is not a problem.

Cursor control is effected via the keypad - the standard arrow keys just scroll the text. All text operations are fast - sometimes too fast - and smooth. In fact, the only major fault of *Uedit* I could pick beyond the NTSC screen is the previously mentioned comptete absence of any link with what Amiga programs ought to look and feel like. *Uedit's* quirky interface is actually perfectly usable, just unfamiliar and not a little frustrating for the beginner.

On the whole, *Uedit's* a powerful package, as you'd expect for the hefty ShareWare fee, and I'd certainly recommend it for IBM'ers. However, its ugly interface and foreign approach is a major turn-off for Amiga aficionados,-and in my opinion the NTSC screen kills it. But if you're interested, pick up a copy of the distributable version and see what you think; the beauty of ShareWare is that you need only pay if you like what you get.

CEDPro

CEDPro is an editor for serious programmers or technical writers. To cover all of its features would need a book about as big as the excellent, and well written, manual supplied. This manual I am happy to say has, in this second release, gained an index, after the good folk at ASDG had heavy sharp things thrown at them by many programmers for a good while in a persuasive sort of way.

The first thing that struck me about *CEDPro* is how slick the text scrolling is. *CEDPro* can, if you wish, use the standard Amiga text scroll handler, but by default it uses its own configurable (like everything else in this editor; just take "configurable" as read for all the features...) optimised scroll routines, which are quite unnecessarily gorgeous.

If you click the proportional gadget - configurable to either side of the screen, or off - the text scrolls fluidly downwards in a blink of an eye, then coasts smoothly to a halt over the last few lines. You almost expect to hear a muted click when it stops. The only reason you'd want to turn this off and use the Amiga routines is because it crashes with some terminat programs, although personally I'm highly doubtful about any sort of serious multitasking when something in the background is relying on continuous access to the serial port, anyway.

The rest of the user interface is up to this same standard. The gushes on the back point this out - both speak in glowing terms, and the fact that one of them is by Jay Miner, Father Of The Amiga and the other by R. J. Mical, Father Of Intuition, mean they carry rather a lot of weight. Everything is where it ought to be and works as it should. Despite, once again, total configurability and an enormous number of key assigns, not to mention a huge ARexx command set allowing every single editor function to be driven from outside, *CEDPro* is dead easy to use and is generally a joy to work with.

I shan't even attempt to go over everything *CEDPro* can do or we'll need a 50 page supplement, but how's this to be going on with:

Views - You can have lots of files open at once, or lots of co-operative views of the same file, enormously simplifying both programming and article writing. Views are easily sized (though aren't true windows), and can be set to automatically expand themselves on selection.

Hot-starting - *CEDPro* can be set to, on quitting, hang about in the background waiting for alt-shift-return to be pressed, and will then pop into existence again. It can also be started in the background mode as part of your startup-sequence.

A program, RecoverCedFiles, is included to haul back from oblivion any unsaved text after a major crash. If it's still in RAM, this'll find it.

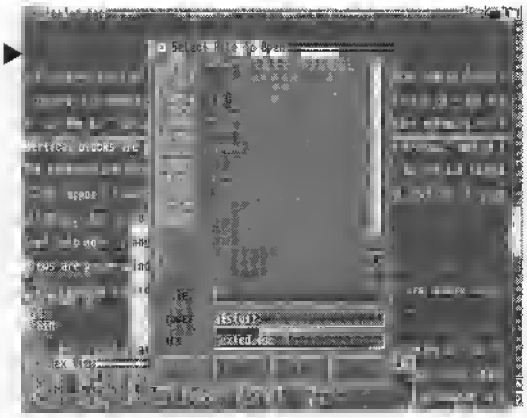
Wildcards can be used in the search/replace requestor, and the Turbo option will, given enough spare RAM, whip through a replace operation at speeds only beaten by the remarkable *QED*. The standard Global search is nothing to write home about, using as it does the usual running update method, but don't let's whinge.

Vertical blocks can be marked, and can, on pasting, be set to pad themselves with spaces so they don't just tack onto whatever else is in the line but retain their own shape. Files or blocks can be printed to file or to prt:- the file print option is handy for tab conversion and similar reformatting.

The magnificent req.library file re-

◄ Cygnus-Ed Professional

TurboText ►



questor is used. Best in the world. Any disk font can be used (though not printed). The ARexx interface, as previously mentioned, is very nearly perfect. Internal macros are also enormously powerful, since requestors can now be driven from within them, and they can be bound to any key, even hard coded ones, with the original key's definition allowable within the macro. And they're significantly faster in Release 2.

Autosave - If told, *CEDPro* will ask you at set intervals if you'd like to save your document. Say farewell to 300K unsaved source files vanishing when the power lines go down. You can turn off the requestor and just have the save happen without prompting.

Unlimited undo/redo levels - This is as good as it sounds; you can set both the the amount of RAM to use for undos and the maximum number you want permissible. File views can be made read only to avoid accidental modifications. Three file save methods - straight, with temporary backup, and with permanent backup/s.

And here's a big 'un - ARexx capable compilers or assemblers can now be directly fed with source code via Rexx (*CEDPro* null terminates each buffer in RAM). The features go on and on, as you may have noticed. Overall, *CEDPro's* in my opinion the best of the bunch here. Fast, complete, configurable. While for many users' purposes this package may be akin to using a tactical nuclear weapon to kill a flea, for the serious programmer or writer it's very nice indeed. Highly recommended.

TurboText

TurboText is a slightly older program than *CEDPro 2*, but it's by no means a dinosaur. It's a considerably bigger program - a major problem to fit onto a floppy based system - and while superficially similar to *CEDPro*, actually includes a few features which make it technically the more powerful of the two. The manual is just as competently put together, although it lacks the ASDG peoples' occasional dry jokes. Interestingly, the copy of the manual I got had a couple of pretty major stuff-ups in it - Chapter 9 started twice, for example - but nothing was missing.

TTX's interface is more boring than *CEDPro's*. No submenus are used, just requestors and option windows. The file requestor, while good, can't beat req.library's. And text scrolling uses the Amiga default routines, which after *CEDPro's* are rather lacklustre. However, *TTX* does have some features *CEDPro* can't manage, so if you're willing to sacrifice some cosmetic details and a little ease of use for more beef, *TTX* could be for you.

Again, exhaustive discussion of *TTX's* many features would take many moons. So another list commences:

Vertical blocks are again possible, but they can't be padded with spaces and so they're not as useful. However, the clipboard contents can be cut as a regular block and pasted as a vertical one.

The find/replace requestor has a nice option to ignore accents, so you can search for "naïve" with the string "naive" and have it match. Handy for text files from foreign climes.

TTX supports "folds". These are an outlining feature enormously helpful to programmers and not useless for regular writers. Highlight a block, select Make Fold and everything but the first line vanishes, leaving the first line with a marker character to remind you. So giant clumps of text can be compressed for easy reading, subroutines squished to a single line, and so forth. To avoid munging the saved file with oddball characters, fold data is saved in the file icon and automatically loaded.

TTX also has an autosave feature just like *CEDPro's*. Read only mode on any view is supported, just as in *CEDPro*. Views are proper windows, and can be juggled about and resized. *TTX* includes a word correction feature, brilliant for programmers, where mistyped words can, with one keystroke, be automatically corrected. Case can be corrected without hitting a key, and templates can be created to reduce drudgery, e.g. if the right template file is loaded, typing PROCE and hitting F2 will produce

```
PROCEDURE 90;
VAR
BEGIN
END
```

- Cute, eh? A dictionary of all likely words is needed, and dictionaries and capitalisation templates for Ada, 68000 assembler, C and COBOL are included.

Again, everything you could wish for can be changed into anything you could imagine. Fairly exact emulations are in-

cluded on the disk of *WordStar*, *TxEd*, Northgate Omnikey ULTRA, *BRIEF 3.0*, *CED* (though not *CEDPro*), MS-DOS *QEdit*, AmigaDOS 2.0 *ED* and MEMACS keyboards, with further support for configuring your keypad as an IBM or DEC VT type. Of course, there's nothing to stop you rolling your own for just about any environment you're used to.

TTX supports search wildcards like *CEDPro*, but will also allow wildcards in the destination, so setting search to t*n and replace to fo*l will turn tin into foil and ton into fool. Not dreadfully useful, but nice to know it's there.

And again, the ARexx interface is a monster, with control over everything from elsewhere, and all the commands being just as applicable to internal macros. *TTX* also includes TTXCalc, a useful gadget which allows, among other things, base conversion, logic operations and control of operation bit size. It's fully keyboard operated and works as well as you could expect, though I still prefer a separate machine for simplicity's sake.

On the whole, *TTX* is *CEDPro* sans frills and plus muscle, although there's really not a vast amount between the two. If you're a professional programmer, you'll prefer *TTX*, while writers would do better with *CEDPro*. I'm not mad keen on *TTX* myself, but I've little use for *TTX's* limited spell checking and templates, although folds are a nice touch to keep hefty documents like this one manageable. Have a look at both of these if you're sure you need a big editor.

Table Explanations

Size - Decompacted size of the bare program, without any support files, in KBytes, followed by the size after implosion with *Turbo Imploder V4.0*, on its compression eight Library setting. **Replace** - Time taken to find and replace 45,301 occurrences of the letter "e" with "â" in a titanic (648K) text file on a standard 68000 A500 with three megabytes of RAM.

SFind - Time taken to not find a nonsense ASCII character in the abovementioned huge file. LFind is another search, but this time for a 40 character string. **ARexx** - Whether the editor supports the Amiga port of the Rexx language, which allows commands to be sent to, from and between programs. **BinaryEd** - Whether the editor can load, edit and save binary code. Note that just loading it is not good enough - *AZ* can load binary, but removes spaces on the ends of lines and thus garbles the file.

Bracmatch - Whether the editor has a dedicated feature to find brackets matching a selected one. **Iconify** - Can the editor can be shrunk to a small icon, or tiny window, on screen? **Keymap** - User can reconfigure the editor's assigned key commands.

Macro - Inbuilt macro feature, separate from any ARexx implementation. **Multifile** - Work on several files at once. **Multiview** - Several views of the one file open simultaneously. **Sleep** - Can be "put to sleep" in the background, to be brought back with a hotkey sequence.

Wordwrap - Remember, all those editors with word wrap must be able to turn it off, or they're not txt editors. **Copyright** - What sort of copying restrictions apply to the program - Commercial, Public Domain, ShareWare or FreeWare. **Other** - Major features other than those dealt with in this table.

NOTES

- *AZ* comes in two versions, one of which uses the isup.library for its requestor. This library is used by very few programs, having been supplanted by the more elegant req.library. The size listing here is for the larger version.

- Both *Dme* and *Textra* had problems with the enormous test file when performing the search/replace test. *Textra* replaced random instances - no obvious pattern emerged - and *Dme* refused to replace the second of any double e's. The times taken for these, faulty replaces were 30:35 and 10:48 respectively; these have been increased proportionately for the table to give a result representative of how long the replace operations should have taken. Both programs were fine with smaller files.

- This result came from *CEDPro's* Turbo replace option. When operating in its standard Global mode, it took an uninspiring 38:30

■

COMPARISON TABLE (X = yes, - = no)

	AZ	*Dme*	*QED*	*Textra*	*Uedit*	*CEDPro*	*TurboText*
Size (K)	63/36	58/35	53/29	61/26	93/57	110/60	169/85
Replace	37:04	11:05	0:14.5	32:18	12:04	0:37	2:46
SFind	1:14	0:49.5	0:07.5	1:49	0:08	0:06.6	1:48
LFind	0:28.5	0:49.5	0:07.5	1:43	0:08	0:06.6	0:04.6
ARexx	-	X	X	-	X	X	X
BinaryEd	-	-	-	-	X	X	X
Bracmatch	X	-	-	-	-	X	X
Iconify	X	X	-	-	X	-	-
Keymap	-	X	-	-	X	X	X
Macro	-	X	X	-	X	X	X
Multifile	X	X	X	X	X	X	X
Multiview	-	-	-	-	-	X	X
Sleep	-	-	-	-	X	X	-
Wordwrap	-	X	X	-	X	X	X
Copyright	P	F	S	P	S	C	C
Other	X	X	X	-	X	X	X

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OctaMED 2.0

Eight Track Sequencer

An upgrade to MED, complete with eight channel sequencer mode and music notation has arrived. Alex Van Starrex explains why MED is fast becoming the Amiga standard for MIDI-less music sequencing and examines if those extra channels are really worth it.

➤ *MED*, is a brilliant freely distributable music program by Finnish programmer Teijo Kinnunen. The history of the program is one of the true success stories of computerdom and one that deserves to continue with the licenseware release of the latest version - *OctaMED 2.0*.

In 1989, Teijo decided to re-invent *SoundTracker*, then the most popular hacker's music program in Europe. *SoundTracker's* more objectionable faults were addressed, such as the lack of multitasking. The whole presentation and method of preparing songs was worked on.

When the first version of *MED* finally appeared, it impressed users such as myself as being the easiest and most effective music program yet to appear for the Amiga. No program is ever perfect, especially on its first appearance, but in the time following its release, Teijo worked relentlessly to improve *MED's* appearance and performance.

I can remember writing back to Teijo with a list of suggested improvements for the program - not being sure whether they were even possible - only to be sent back new, improved versions. Soon, every single item had been implemented. And I was only one of thousands of users of the program from around the world.

By the time version 3.00 appeared, users could not only create the usual *SoundTracker* modules with it, but could make songs of much greater flexibility with a choice of 240 tempos, the ability to use multi-sampled instruments and synthsounds (additive soundwaves) and much more. Sampling software was incorporated as well, so that instruments could be created and modified without having to exit the program. Added to this were extra cosmetic and operational features; real time oscilloscope type equalisers, keyboard shortcuts, advanced block/track creation and manipulation features - the list goes on.

With version 3.10 came the separate appearance of *OctaMED* - an eight channel variation which was released through a licensing agreement with Amiganuts in England. A final four channel-only version of *MED* was released - 3.11b, while development continued on the more sophisticated and financially rewarding *OctaMED*. Now version 2.0 has appeared.

Features

OctaMED 2.0 incorporates *MED v.3.20*. Among its new features are the ability to create songs in any of four to eight channels, including multi-modules - having different songs that use a common set of instruments. There are improved MIDI commands, a *ProTracker* keyboard control option and the introduction of stave or conventional music notation as a means of presenting and printing song information.

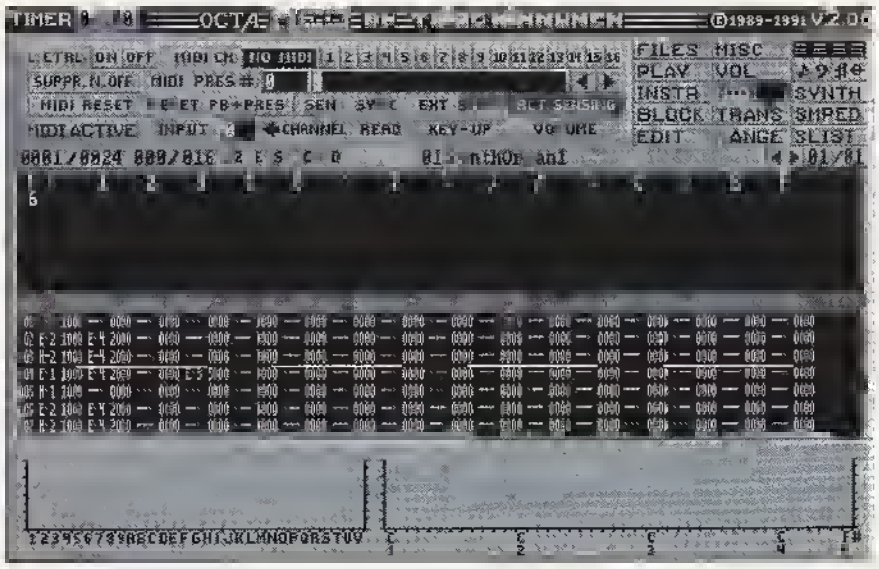
Both *OctaMED* 1.0 and 2.0 are now available through Darling Downs PD, the exclusive distributors in Australia for Amiganuts licenceware products. They cost $10.00 and $45.00 respectively. A percentage of your money goes back to the programmer. A slightly different version of *OctaMED* 1.0 can also be found on the December 1991 cover disks of the English magazine, *Amiga Format*. I'd still recommend readers purchase version 2.0 - you get extra features and qualify for discounts when upgrading to future versions.

OctaMED comes on a single disk, containing the main program, a revised multi song *OctaMED* Player program, two demo tunes, programmers files and code examples, along with the main instructions. A printed manual is in the pipeline - though it will add to the cost of the program when, and if, it appears.

In the meantime, anyone with access to a printer won't have to do without. In any event, the program itself is very intuitive in its approach. You need to know very little about it in order to start composing.

OctaMED is bootable and compatible with versions 1.2 and 1.3 of Workbench, with a 2.0 version coming soon. However, *OctaMED* requires one megabyte in order to run - though owners with less can still use other versions of *MED*, or else upgrade by acquiring the extra memory.

Hard disk installation is no problem. Once the program has started, it takes only a few adjustments (to the screen depth gadget, channel mode and block type), and you're ready to start composing in eight channels - but, you may ask, how is it possible?



Eight Channel Sound

The four extra channels are created by halving the information that would normally go to the original four. In effect, each sound channel gets fed two half-channels worth of information - with channels four to seven being linked in a way to their corresponding originals zero to three. The overall volume is reduced slightly and the sound quality isn't up to the Amiga's usual exceptional standard - but there's no denying the thrill of realising that it is possible to have eight channels on an unmodified Amiga.

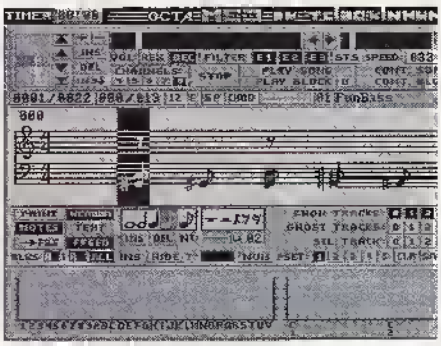
Some care is required when writing pieces of music as note information, such as triggering and volume, is shared between corresponding half-channels.

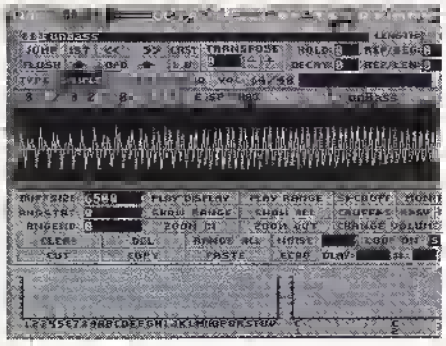
Sound samples should be halved in volume when converting from four channels to more, so that the songs play properly. This is done automatically by the program. It may take some time to learn how to make the best use of the extra channels, but that's part of the composer's learning process, as much as anything else.

Playing eight channel songs from Workbench will slow down normal Workbench operations. File, program and disk access times are all increased. This is due to greater DMA processor demands, though Teijo says that Amigas with 68020 (or higher) processors shouldn't experience the same problems. In order to compensate for this, *OctaMED 2.0* now allows songs to be created with five to seven channels - thus freeing up processing times and restoring the sound quality of the remaining unsplit channels. The processing time improvement is noticeable, but not dramatic.

Music Notation

The advantages of having full stave notation in a music-program are immense, especially for entering music directly from printed scores. Without it, music has to be entered by ear, when sequencing and sheet-music can't be transcribed without a knowledge of pitch, intervals or key transpositions. *OctaMED* has taken a further step away from its sequencing cousins by allowing music to be displayed and printed in stave mode.





MED's glorious opening screen.

At the moment, all notes show on a single pair of bass and treble staves in the key of C, with a choice of 3/4 or 4/4 time. Individual channels can be highlighted or ghosted to make the music easier to follow. Notes and rests can be entered and deleted in this mode, otherwise *OctaMED* simulates such notation to match previous structure.

Further concessions to conventional notation - extra staves, time signatures and so forth - would require a different program configuration, though there's no reason why this couldn't be done. I see this as the greatest single area for improvement in *OctaMED* and in music programs generally on the Amiga. *MED's* musical language is certainly a step up from the limitations of *SoundTracker* based sequencing tools - its tempo ranges, effect commands, block manipulation abilities and instrument handling abilities attest to that. But it's still more of a music simulator, as opposed to a real music program without full notation handling. Think of an analogy with flight or driving simulators to see what I mean.

The lack of development of a *Deluxe Music II* (let alone a III or IV) has left a gap in the area of conventional music programs on the Amiga - and with the present version being so slow, prone to crashing and lacking player program facilities, it can't hope to match the convenience of sequencers like *SoundTracker* or *MED/OctaMED*.

Other programs have tried the stave/sequencer hybrid approach and, in my opinion, failed - either limiting flexibility at the sequencing end as with *Dr.T's KCS* and *Tiger Cub* packages, or else convoluting the whole process to the point of confusion as with *Bars & Pipes*.

Where future versions of *OctaMED* go from here remains to be seen. Teijo's programming skills being what they are, any number of changes are possible. I would personally like to see the adoption of the SMUS format, in order to provide the sort of notational ability that *OctaMED* currently aims for while maintaining file interchangeability with the other music programs which have already adopted SMUS.

However, this could possibly mean the loss of many of the *SoundTracker* type sound effects which it is known for - not to mention a majority of users who may have become overly attached to sequencing as a means of music production.

In the meantime we have the present specifications of *OctaMED* - whether they are a compromise to musical practicality or a proud achievement in their own right will depend on the attitude of the individual user.

Performance

MED has always excelled in its normal four channel mode. It can do things that other music programs (especially *SoundTracker* clones) simply can't. The net result is music that is more musical in every way. *OctaMED* consolidates this by adding extra channels and improved facilities overall. Operating *OctaMED* in more than four channels reduces its versatility somewhat - for example, by losing the extra *MED* tempos and not allowing the use of synthsounds.

For those users who are willing to overlook such restrictions, the realms of eight channel sound will carry their own rewards. After using eight channels for a time, I thought I'd never go back to using four channels again but, now that the novelty has worn off, it seems plain that each channel mode has its advantages. For those that place versatility and sound quality highest, four channel mode is still the way to go. Those who feel hampered by this but don't want to go to the expense of purchasing MIDI equipment to expand their horizons will enjoy having the extra channels to play around with.

MIDI users have the bonus of a low cost program that makes excellent use of MIDI commands and performance data, and *OctaMED 2.0* has an extra graphic mode, whereby all 16 MIDI channels can be displayed on screen at once. They will find *OctaMED* indispensible, since it marries the versatility of normal *SoundTracker* type sequencing with MIDI's unmatched sound capabilities.

After having produced over 150 songs on seven versions of *MED/OctaMED*, I obviously enjoy using this method of music production - so can recommend the basic program wholeheartedly to ordinary readers. Experienced *MED* users will judge *OctaMED 2.0* by a different set of standards, though, and may find it comparatively slow to operate. Version 3.0 remains the fastest of *MED's* feature packed updates, due to its low resolution main screen and lack of eight channel programming bag-

gage. Those users who take *MED's* capabilities for granted may also find *OctaMED's* extra channels something of a gimmick as many of *MED's* features are disabled in this mode and eight channel composition isn't ultimately as easy or satisfying as it initially appears to be.

Conclusions

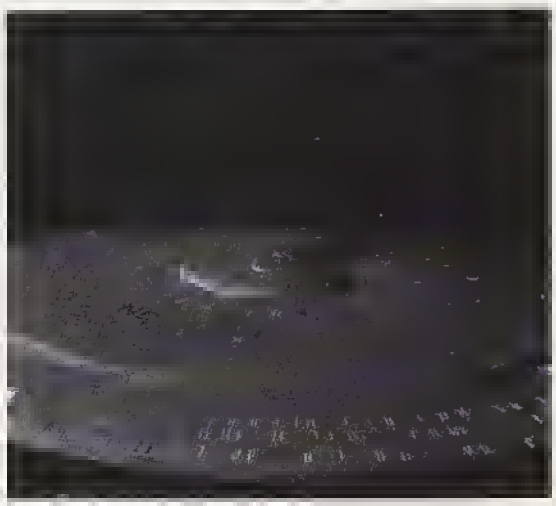
As with all programs, *OctaMED's* usefulness is dependant on the experience and capabilities of its users. People who have never used a music program on their Amiga before will love it. Since it is easy to use, it requires no extra equipment - you play the keyboard on your computer to enter notes. With only limited musical talent you can create meaningful arrangements, as simple or complex as you like. Anyone else with an Amiga can play your music on their machine too, without requiring the main program.

Intermediate and advanced users will appreciate the range of features which it provides. Since *MED* is widely acknowledged as the best music program for the Amiga, certainly within the public domain, you won't go far wrong by hopping onto the band wagon and getting this, the most advanced copy. You may even want to send your *MED* music around the world, as I do - but don't put a deposit on your pop star Rolls Royce just yet. Lucrative recording contracts and royalty payments aren't common for the Amiga musician.

Overall, *OctaMED 2.0* is an excellent program, and one worthy of support by anyone interested in making music on the Amiga. With improvements to its notation system, it could rival the best music programs available - at any price. Its present $45.00 price, which includes a discount on upgrades, makes it a wise investment, if not a bargain to boot.

So I'd recommend that interested readers contact Darling Downs PD - not just to order their copy of *OctaMED 2.0*, but also to check out the range of other licenceware products - ph. (076) 346948. *OctaMED* also available from Megadisc (02) 959 3692. ■

The Art



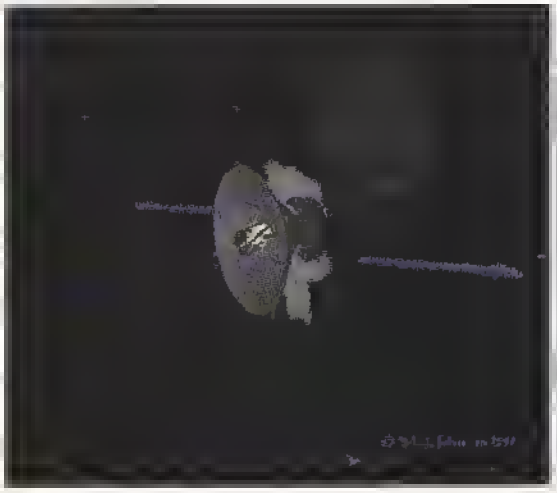
Left Hand Page

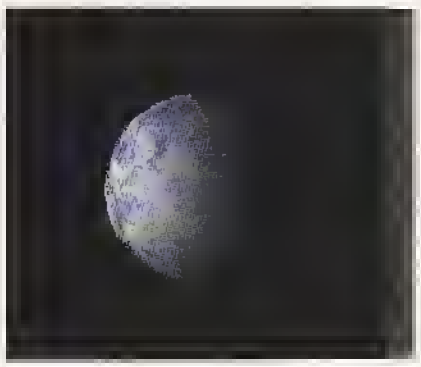
Top left ◗ *X Wing* by Mark Midolia of NSW
Top right ◗ *Enterprise NCC-1701-D* by John Rowe of Queensland
Left ◗ *BirdFire* by Mark Johnson of Western Australia

Right Hand Page

Top ◗ *Chess* by Mark Midolia of NSW
Top right ◗ *Voyager Hit* by Mark Johnson of Western Australia
Bottom right ◗ *Bird and Planet* by Mark Johnson of Western Australia
Left ◗ *A Nice Place To Live..* by John Rowe of Queensland

Gallery





Workbench 2.04 Hints and Tips

By Nic Wilson

A regular look at getting more out of Workbench 2.0 and the Amiga 3000. Your contributions are welcome.

A3000 Enhancer Kit

My sources lead me to believe that A3000 owners will have to wait a little while longer for their upgrade. When it finally arrives, it will have update pages for the DOS manual that is supplied with the A3000. Kickstart for the A3000 has not yet been commited to ROM. Contrary to some users' belief, ROMS for the A3000 are different to the ROMS for the A500/A2000. The A3000 has full 32 bit wide addressing and requires two 128k x 16 bit ROMS or EPROMS, making a 32 bit wide Kickstart. It also has to know about the on-board hardware that is standard in the A3000.

Personally, I do not see the need for ROMS on an A3000. Current ROMS are slower than the memory used in the A3000, and Super Kickstart ability is lost, unless they change this. The A3000 only takes seconds to load its kickstart file and these are easily changed. ROMS cause incompatibilities due to bugs in the code and multiple versions of "SetPatch's" that appear to correct them. I believe that new, more versatile and 68040 compatible boot ROMS, similar to the ones we have now would be a much better idea.

Meanwhile I personally have no choice. I have a 68040 board so I have to use kickstart ROMS. As mentioned earlier in this document, early release ROMS are available for purchasers of A3000/68040 cards. I hope to eventually write some ZKick type programs to do Kickstarting if necessary.

Speeding up your A3000 SCSI Hard Disk

This depends on the drive in your A3000 and how it was initially formatted and mounted. The A3000 supports a mode called reselection, and currently it does not work correctly so is giving you zero benefit. By default it is on, and turning it off doubled the speed of my Quantum 210 Meg hard disk, from 700k/Sec reads to 1.4 Meg/Sec reads on a drive that was over 65% full. Do not bother trying the two icons "Reselect On" and "Reselect Off" because they do not work as yet.

You can actually notice the difference in speed when booting. Try running *DiskPerf* or *DiskSpeed* before and after. You will be amazed at the results. I will walk you through the steps of doing this change, but be warned, if you do not follow these steps EXACTLY, you will lose your data and your drive will require rebuilding. I have performed this on a few hard disks now with no problems at all. It is completely safe if you follow the steps. If you are unsure at all then back the drive up first! The following information is supplied "as is" and I accept no responsibility.

1. The first thing we will do is write down your current partition sizes. Boot up your hard disk, and go to workbench. Load *HDToolBox* from the System2.0/tools drawer. Click on "Partition Drive". Click on "Advanced Options". At the top of the window is a long rectangular box showing all your partitions, each with its name in a string gadget in the middle of the window. Write down the name in this string gadget. Write down the value in the "Start Cyl" and "End Cyl" gadgets. Click on the next partition in the rectangular box and keep writing the information down until you have done all of the partitions. Click on the "Cancel" gadget at the bottom right of the window.

2. The next thing we will do is determine if reselection is on. We are now back at the main menu. Click on "Change Drive Type". Click on "Define new drive type". Click on "Read Configuration From Drive". Click on "Continue to the requester". Is "Yes" is showing be-

side the text "Supports reselection?" If it is, your drive needs changing.

3. To change the drive reselection, click the gadget until it shows "No". Click the "OK" gadget at the bottom right. Your drive will now be showing in the window. Highlight the drive by clicking once on it. Click on "OK" at the bottom right. Ignore the warning that partition will be lost and choose the "Continue" gadget. We are now back at the main menu. Click on "Partition Drive". We now have to re-enter all the information you wrote down earlier. Most of the information is automatic except for the ones you wrote down or others that can be more easily chosen.

The partition box now shows two partitions in equal halves. We have to remove them. Click in the right hand side of the box and that half will turn black. Click on the "Delete Partition" gadget. We now have one big partition we can break up. The "Start Cyl" should already be showing a value of two This part belongs to the partition normally called "WB_2.x" Re-enter the "End Cyl value" and press return. "Total Cyl" will automatically change. "Buffers" probably shows "30"; change this to "50". Click in the "Partition Device Name" string gadget and delete the name and re-enter the correct name for this partition. Make sure that the "Bootable?" gadget shows "Yes" Change the "Boot Priority" to show a value of "1" Now click on the "New Partition Gadget" Now do the same for the all other partitions, setting the Name, Start Cyl, End Cyl and then clicking "New Partition" after each one. Make sure that bootable partitions show as "Yes" and non-bootable show as "No". The boot priority for the WB_1.3 partition should be "0".

Now click on each partition in the rectangular box one at a time and double check the values with the ones that you wrote down. Now triple check them. All OK? Unsure? Check them again!

When you are ready click the "OK" gadget at the bottom right of the window. We are now back at the main menu. Click on "Save Changes to drive". All finished, Well done! To make the changes take effect, reboot your Amiga.

Kickstart 1.2 on the A3000

Don't know why anyone would want to, but it is possible. I have successfully made a SuperKickStart 1.2 disk. You will need my TrackDOS program from Megadisc 16. Make a copy of one of your SuperKickStart disks and have a Kickstart 1.2 disk handy. Launch TrackDOS and select Trackdisk to Memory. Insert the Kickstart 1.2 disk in DF0:. Disk Offset is $200, Read Length is $40000, Preferred Area leave blank, Read From Device is DF0:. Click on OK. Note down the address that is returned when reading is finished and choose EXIT to go back to the main menu. Select Memory to Trackdisk and insert your SuperKickStart disk in DF0:. Source Address is the address you noted down, but don't forget the preceding dollar sign ($). End Address is +$40000 (the plus allows us to insert address as a length). Disk Offset is $400 and Write to Device is DF0:. Click OK and wait for writing to finish. This disk will now be a V2.0x and V1.2 kickstart. For programmers the layout of a SuperKickStart disk is as follows.

Offsett $0 DC.L 'KICK'
" $4 DC.L 'SUP0' (NOTE ascii zero)
" $8 DC.L 32 bit length of BONUS code 1.3
" $C DC.L 32 bit length of BONUS code 2.0
" $400 256k of kickstart 1.3
" $40400 512k of kickstart 2.0
" $C0400 2.0 BONUS code start
" $C1400 1.3 BONUS code start

Fixing Games

Firstly an old classic, *Marble Madness*. It was a big disappointment for my eldest son when his favourite game *Marble Madness* failed on the A3000. This fix is quite easy, and requires no modification to the disk itself. Obtain a copy of 'SetCpu' from Fish disk #400. Run the command with the option as shown below.

SetCpu kickrom df0:

Shortly after this the old A1000 kickstart hand will appear. Feed it a stock standard Kickstart 1.2 or 1.3 disk. After the kick is loaded and a brief delay, the Amiga will reset and the workbench hand will appear. Feed the *Marble Madness* disk and voila! This may also work for many other games, try it and let me know if you have any success.

Defender of the Crown

Another classic that simply had to be fixed. Once again it requires the SetCpu command, but this time copy setcpu to the *Defender* disk one. Edit the startup-sequence on disk one, and add a line at the beginning of it that reads:-

SetCpu nocache noburst

Save the startup-sequence, write protect the disk and load up kickstart 1.3 and the game will work fine. This may also work for other games.

Arkanoid

This one needed major hacking, but I have managed to do it. If anyone would like it, then send your ORIGINAL *Arkanoid* disk, with return postage to me and I will return you a copy. Please note that I will ONLY over write your original, I WILL NOT supply a seperate copy. If anyone sends a pirate copy, I will destroy the copy and return the disk blank.

Dragon's Lair 1

Load through *Dragon's Lair Singe's Castle* as a combined game then all screens are playable.

Wizball

As for *Defender of the Crown*

Garrison 1 and 2

As for *Marble Madness*

Until next time....Happy Amiga'ing

You can write to Nic Wilson at Nic Wilson Software, 138D South Street Toowoomba Queensland 4350 Australia, or phone or fax (076) 358384 BH or phone (076) 358539 AH. ■

DynaCADD

Move Over AutoCad

➤ I have been a PC CAD user for several years now, after completing an Associate Diploma in Mechanical Engineering. In my previous design work, I had used CAD as a tool in the initial design stage through to producing final workshop drawings. As those who have any experience with *AutoCAD* will know, it is a great package.

However, a beginning CAD user will find it a seemingly vertical learning curve to come to grips with so many commands and menu paths. *AutoCAD* is also rather expensive. This left me wanting a full featured CAD package with 3D capability that I could afford and that would run under AmigaDOS.

I read about the *DynaCADD* package in this magazine and sent away for the demo version several months ago.

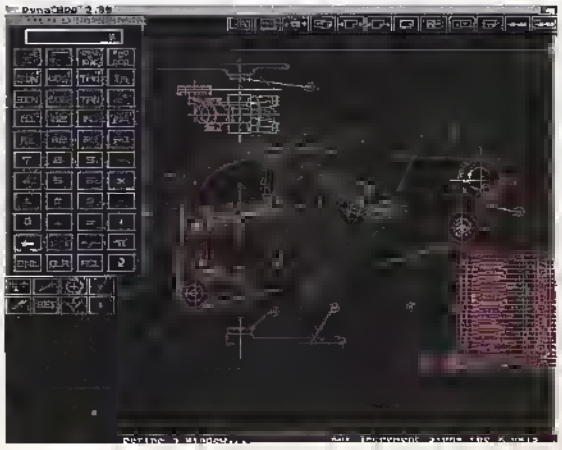
The demo was great but had some omissions that would have really made it. A functional <Layer Attributes> menu would have showed off the package far better.

Installation

DynaCADD comes with a three ring folder filled with a bulky manual, four disks, product registration card and a key or dongle. This small hardware device acts as Ditek Internationals method of copy protection. The manual also comes with a nice outer case to keep it all together. Some 470 pages of description cover all aspects of the package well enough to get anyone up to speed who is familiar with similar packages. There's also 2D and 3D tutorials that will bring beginning CAD drafters up to scratch.

The manual covers the following areas: Basic Theory; The Interface; Menus; Inserting Entities; Curves, including spline and bezier (useful for freehand shapes); Dimensioning; Transformation, which covers trim, mirror, stretch, rotate etc; View Manipulation, including Geometric co-ordinate plane creation; Tool Creation, covering figures, the *AutoCAD* block equivalent as well as images, the *AutoCAD* View equivalent; Information requests; Layers; The Vector font editor and File Transfers with a full specification of the *DynaCADD* file format.

There are some instances where the manual is describing the equivalent MS-DOS version of a command, but the Amiga version has an icon to take care of any ambiguity.



The install program is easy to use, requiring you to enter your desired partition name along with your name and address for program owner identification. The install program prompts you to change disks when necessary and creates all required directories, provided you have enough memory on the destination drive. Once the install program is finished and the dongle is installed, you're ready to begin.

Drawing

A basic requirement of a CAD package is to be able to draw lines, circles and entities at precise locations. This is done using what *AutoCAD* users know as Osnap overides. These are accessed on the first four function keys or by an icon, allowing you to select a point by snapping to a point, end of a line, middle of a line or center of a circle or arc

Next you need to ensure that your line thickness meets the standards for your drawing sheet size. This is where I discovered that I was unable to print directly to my printer.

I had to print the output to disk and then do a background output of the disk file to printer. I'm using a

laser printer which emulates the HP LaserJet through the parallel port, and had not been able to print different line thicknesses using *AutoCAD* without fiddling with poly-lines and tracing the entities - this was a pain. However, *DynaCADD* allows you can set up thicknesses of lines easily with the <line indexes..> menu. I drew an AS1100 standard set of lines and then printed them to check the appearance.

Each layer can have one of three line thicknesses assigned to it. In all standard drawing there are only three thicknesses used and should the need arise where extra thick lines are required you use the <Solidpath> command to trace any entity with any thickness line you desire.

Layers

I like to have my drawing outline on one layer, dimensioning on another, text on another and so on, as I have done in my experience with *AutoCAD*. A feature not in the demo version, but included in *DynaCADD 2.0*, is the <Layer attributes..> menu. This is identical to the layer control menu in *AutoCAD*.

After setting up my layer preferences, I saved the part as "AS1100 part" and saved the settings as default. The "Part" is to *AutoCAD* users the "acad.dwg" which is the default settings database that is loaded before any other information is specified by the user, for the drawing about to be commenced.

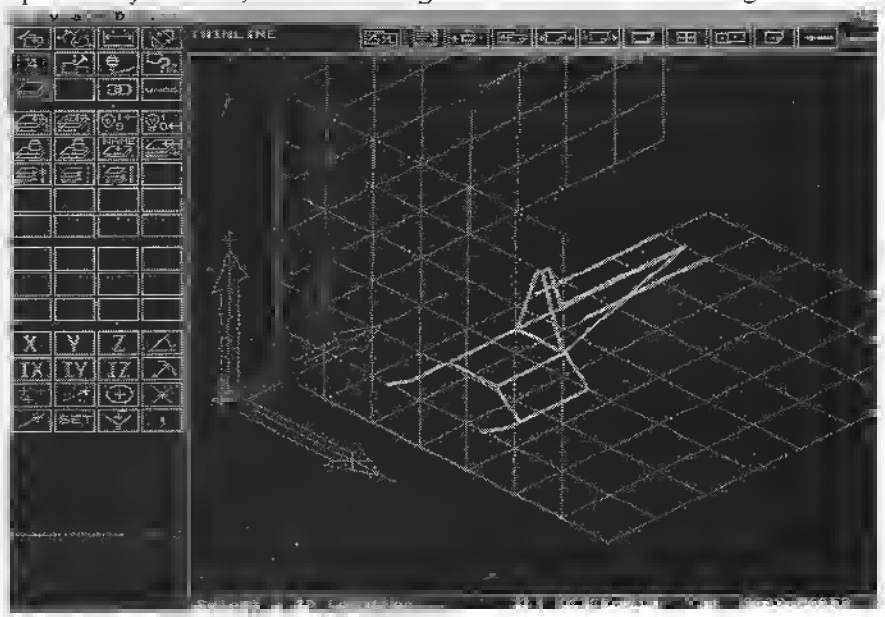
Like *AutoCAD*, you can define 'views', known as 'images'. These are snapshots of parts of your drawing for you to easily return to, when required. 'Blocks', known as 'figures', are very handy. Let's say you are producing an electronic drawing with many resistors, diodes and so on. You draw your resistor symbol and make a figure of it. Now you can insert the resistor symbol rather than having to draw each and every one.

3D Drawing

Working with 3D drawings is like 2D drawing, except that you are now in 3D space rather than drawing on a sheet. You draw on a 'sheet' that you position on the correct plane for the object you are drawing. Simply put, if you are drawing a cube, you draw the front of the cube on the 'front sheet' then to draw the side of the cube you would turn the sheet 90 degrees and on this new 'sheet' you draw the side. These 'sheets' are known in *DynaCADD* as Geometric Co-ordinate Planes.

Now we come to a problem. If we have a GCP for the front of the cube that is the same plane as the screen and a new GCP for the side that is turned 90 degrees we can only see the edge of it. This is where creating views becomes handy.

In creating views, your viewport on screen can be defined using the mouse. You can have four active views on screen of whatever proportions you wish. Each view is dynamically updated and the co-ordinate plane is easily manipulated in each view. You can have your front view parallel to the screen in one viewport and your side view parallel to the screen in another viewport.

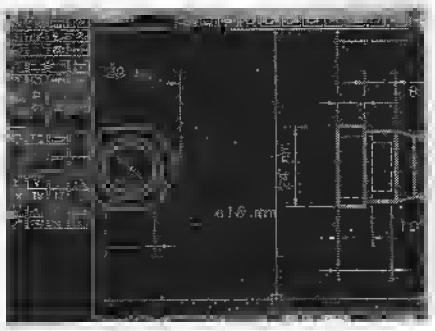


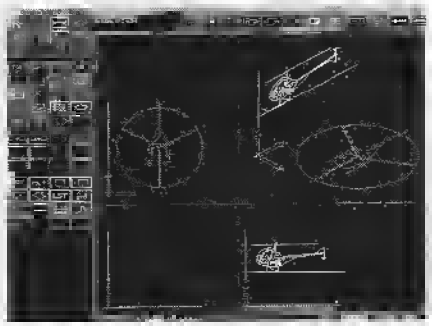
To begin setting up a defined 3D space I tried configuring boxed top (x-y), front (x-z) and right (y-z) co-ordinate planes. These are a few of the seven standard co-ordinate plane definitions. You can define a further nine custom planes. To gain familiarity with a 3D system, I define a grid layer and draw a grid in each view to end up with mesh cube in the Isometric view. Manipulating the grids in each view will enable you to easily distinguish your 3D space. When not needed I then turn the 'grid' layer off.

Next thing to do is define a co-ordinate plane parallel to each of the standard planes for manipulating along their respective Z directions. You may have an existing 2D drawing to insert or create one which will be used to project into 3D. I put the 2D drawing(s) on to the original planes (at the Z = 0 planes), by doing this and copying the 2D drawing(s) to a new layer, let's call it "trace" you are set up to copy the 2D drawing entities into the correct 3D position by copying to the extra plane you created and positioned.

This allows you to draw in 2D from any point in your 3D cube. Not clear? Well, let's say you draw the front face of your monitor in the front view; now you want to draw the rear face, you define a GCP (geometric co-ordinate plane) parallel to the front GCP, let's call it 'front-Z' and then tranGCP (move) this new GCP to the Z distance you require. My monitor is 400 mm deep so I <TRANGCP> the 'front-Z' GCP by 400 mm. Now you can draw the rear face of your monitor in the correct 3D position.

Incrementing the co-ordinate plane origin along any axis is accomplished easily with a mouse click on the <IX>, <IY> or <IZ> icon(s) which brings up the value calculator, enter your move distance, to move anywhere you want.





Dimensioning

In producing a production drawing, it's necessary to be able to show exactly what size each of the components you require to be made. This is enabled through the dimensioning facility available in CAD packages. How this is set up can make the dimensioning phase of the drawing a breeze or a real hassle.

DynaCADD has a great icon menu to set your preferences for arrow head, extensions, alignment, text, tolerancing and precision with a click of the mouse button and the dimension entity is scaled to the current font height and width. Combined with the ability to set any fonts height and width parameters, I was able to set up the dimensioning style to AS1100 standards in very little time - very easy!

These default settings, along with a full set of modifiers, including the ability to insert circle centerlines with one click and base circle diameters, with a click for circle center and one click on each radial entity and other such shortcuts, make this phase very painless for me. *DynaCADD* can call diameter, degree and any other ASCII character with <%% char no.> selection.

Fonts used by *DynaCADD* are vector fonts. You can set the spacing to constant, proporlional or have kerning, as well as adjustment of the slant, so that any individuals preferences for drawing appearance is tailored for. Still haven't got exactly what you want? Then use the Vector font editor to create any particular character shape you wish.

DXF Transfer

DynaCADD importing of DXF files offers colour transformation so that your background colour is kept and other colours are converted to *DynaCADD* colours or, if desired, no transformation performed. Font styles are not transferred; imported text is set to the Leroy font and exported text is set to Standard font.

To test DXF file transfer, I took an *AutoCAD* drawing of mine, did a DXFOUT on it to create a 580K DXF file which I then imported into *DynaCADD*. It was good to see all layers, layer names and colours intact. I then edited the drawing and did a DXF 2D export from *DynaCADD* and imported the drawing into *AutoCAD* just to check! I can say that you will have no worries taking your work with you between these and other CAD packages that use the DXF standard.

Performance Comparison

To gain a rough idea of relative performance, I did a regeneration of the same drawing on two computers available; An IBM compatible 10 Mhz 286 and an Amiga A3000. Although not comparable hardware wise, this will give some idea to those who have seen *AutoCAD* on MS-DOS computers. The drawing has multiple layers, colours and arrays of small details. This drawing was loaded, regenerated, and DXF exported to the Amiga for the same test. The TRANSFER drawing took 80 seconds to regen in *AutoCAD* on a 10 Mhz AT and three seconds to regen on the A3000!

Alternate CADD Platform

DynaCADD has the functionality of *AutoCAD* as used in a non specialised field of CAD. However, *DynaCADD* has no Lisp or other programming interface. As a mechanical drafting tool, it is full featured and meets my requirements for a CAD package very nicely. Another aspect to consider as well is price/performance. With the price of an Amiga 3000 with monitor around $4000 and *DynaCADD* around $1000 you have a CAD platform for approximately $5000. For the same money, you haven't quite paid for *AutoCAD* and you still need a computer.

The program will run over a network via use of a local work directory which can be set up with the supplied batch file. The main program files are stored on the server.

Summary

In my experience and exposure to different CAD packages I have always thought: 1. *AutoCAD* is 'the' package, but is too expensive for me to own, and 2. Without all of *AutoCAD's* features a CAD package "just isn't good enough"; but now I have found one. This CAD package is, through its icon command system, quick and painless to become accustomed to and begin producing drawings in respectable times.

I find the common commands slightly more powerful without any loss in flexibility. The standard package offers me the best control over my laser that I have seen. For approximately $500 more you can render your 3D objects produced using *DynaCADD* with the excellent 24-bit colour rendering packages available, such as *Imagine*, *LightWave* and *VideoScape*. The package needs a little custom setting up to get going, but after that it is easy to use and the 3D set-up with it's dynamic views is great.

The package has a very full set of features which will enable quick production of drawings. It could have a little better control of line thicknesses for laser output, but all in all *DynaCADD* makes a great CAD tool .

For more information contact Pheonix on (08) 293 8752.

■

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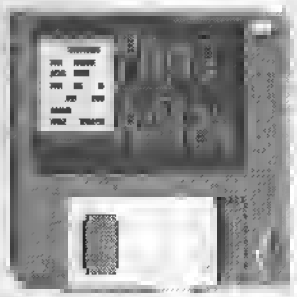

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Game of the Month

RETURN TO EARTH

If you enjoy the idea of traversing the galaxy buying and selling to make a tidy profit and improve your ship, then you'll love Return To Earth. Featuring a point and click interface, combat action, many planets to explore and hopefully you will one day find Earth - the lost centre of civilisation.

$5.50

NEW

Virus Protection

Brand NEW Compilation

Includes BOOTX 4.3 "The Best"

Many so-called virus programs are now out-of-date. You're Amiga could be at risk. New virus strains are appearing and many people are unprotected.
This compilation represents the best in virus detection and eradication software in the world. Don't get caught. ACT NOW!
Ideal for hard disk or floppy based systems. Includes full on-disk instructions.

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Super WB

Super Workbench is synonymous with Prime Artifax, it is one of our greatest sellers. Included are a host of utilities that enhance the Workbench environment. Programs like SID, dMouse, DropCloth, ARP, Wicon, Fullview, PopInfo and more are at your fingertips.
All programs have been installed and are ready for use. We take the hard work out of Public Domain

1Mb or 512k Versions **$8.95**

NEW

Graphics Compilation 4

FreePaint, Graffitti (HAM support - AMOS Speed) and for structured painting (like Oxxi's DesignWorks) - PED. When you have all your images saved away, PicBase will help you keep track of where they all are! Lots of example images and brushes.

$5.50

NEW

Genealogy

Two excellent program for keeping track of your ancestors. A-Gene was originally written for the IBM PC, but has been converted to AmigaBasic and considerably improved and compiled for extra speed. It requires a printer and 1Mb of RAM. Family History also requires a printer and was designed specifically for the Amiga and sports a pull-down menu interface and reasonably well designed screens.

$5.50

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Last Word

GPFax

By Andrew Farrell

➤ Opportunities to turn your Amiga into a good source of income abound, however few people seem to be taking advantage of the possibilities. In publishing *Professional Amiga User* magazine, we've gathered a lot of experience in the area of desktop publishing. At the same time as producing this magazine, we've been producing full colour advertisements for several companies, including one who advertises regularly in many PC publications. If only more of the PC readers knew the pages of their magazine were being filled with ads produced on the Amiga!

At half the price of the Apple Macintosh, the Amiga continues to represent a fantastic opportunity in the world of desktop publishing. Software is about one fifth the price, and although lacking some of the bells and whistles found on Mac programs, is certainly more than capable of handling most tasks.

With version 3.0 of both *Professional Page* and *Professional Draw* on our doorstep and image setting technology improving by the day, the potential for cottage industry production of magazines, advertisements, brochures, newsletters and the like, using the Amiga, continues to grow.

I'm seriously considering holding work shops on using the Amiga for desktop publishing. If you think you might be interested, let us know. If the response is strong enough, we will make sure something is up and running to ensure people can explore the possibilities.

At a time when many companies are looking at ways to reduce costs without necessarily reducing quality, desktop publishing is becoming more viable. There are still many places using out dated methods of creating and designing finished camera ready art. The Amiga is up to the job, this magazine is proof.

Since we first ran several articles on desktop publishing, numerous Amiga owners have approached us for advice. One, who regularly produces a specialist colour publication, said his film bill for the publication will be reduced from $10,000 to $2,000 thanks to the Amiga. The balance is money in the bank which would easily pay for his hardware outlay. The next job is profit. Just one example of how *Professional Page's* colour separation power is making an Amiga owner working from home real money. So, if you're interested, let us know.

On the subject of desktop publishing, the new OpalVision paint software has two features which caught my eye. One is that software allows you to work with gigantic images by using virtual memory - what won't fit in memory is stored on your hard drive. This is ideal for working with large scans of photographs intended for colour separation using *Professional Page*.

The other feature which could be a real money spinner is a tool on the paint software which has smart edge detection for picking up brushes from a cluttered background. According to the designers, this feature will enable you to pick up a persons picture from a busy background without having to manually go around and mark the edges using a brush tool.

In essence, this one feature replaces many man-hours of laboriously cutting such images out using a knife at the film stage. If the feature works well, it will be possible to deep etch images from a photograph and composite them together with a new background all within the one program. This will be a first for the Amiga and I believe a first for the desktop publishing world. With *Professional Page* 3.0 offering improved colour separation quality, the possibilities for combining OpalVision's paint software with high quality design work is enormous both in terms of power and possible time savings.

Fax/Modem Meets Demand

Everyone wants a 9600 baud modem. However, a lot of people also want a fax. Until recently, you couldn't have both without having to buy two devices. All that has changed thanks to Maestro who are now shipping a full 9600 baud data/fax modem. Next month we'll be taking a look at this unit with GP-Software's new *GPFax* package. In the mean time, if you're hanging out to get your hands on some good fax software without having to start punching IDD codes into your phone, give Greg Perry a call on (07) 366 1402.

■

Contributors

➤ *Professional Amiga User* magazine is fully desktop published by people who use the Amiga professionally every day.

However, we are not experts at everything! Your contributions are welcome.

We can accept material via modem - the preferred method. You can also send in a disk containing a clean ASCII text file - that is, one without any special formatting.

Pictures, screen-grabs or illustrations may be included - be sure to provide a text file with suggested captions. The most important thing to include is your day time telephone number.

If you're not sure of the style of writing, try reading articles by our staff writers and adopt a similar style and approach. Keep in mind, most of our readers are endeavouring to push the Amiga to its limits.

They need to know how to get more out of a package, how to overcome limitations and find new ways to create end results more efficiently.

Product reviews should be coordinated with the editorial office. Materials received may not be returned. Do not send us your original. Make a backup copy before posting us your disk.

For more information contact the editors on (02) 879 7455. ■

Advertisers Index

Look what's on the menu...
for the user with an educated palette

Professional Page 3.0

30 new automatic functions or "Genies"
Automatic page creation; UnDo button
Table generation from spreadsheet
Mail merge from database (first in DTP)
7 scalable typefaces; Irregular text wrap
ARexx support, over 300 functions
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Desktop Utilities CDUG Newsletter goes international: now also going out to U.S. subscribers via Inovatronics

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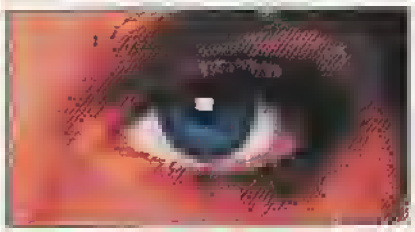
WHAT HAS 16M COLORS, 24-BIT FRAME BUFFER +GENLOCK+FRAMEGRABBER+FLICKER-ELIMINATOR +PIP+VIDEO TITLER+3D MODELLING SYSTEM?



Introducing the IMPACT VISION 24™ from GVP
The All-In-One Video Peripheral for the A3000 and A2000

If you're into video, IMPACT VISION-24 is truly a dream come true for your A3000 or A2000. It is the first multi-function peripheral specifically designed for the A3000's video expansion slot.
With the optional A2000 genlock slot adaptor kit, it also perfectly complements and enhances the A2000.
Check out these features, all packed on a single Amiga® expansion board!

▶ **Separate Composite and Component Video (RGB+Sync) Genlocks.** RGB genlock operates in the digital domain, for digitally perfect production studio quality mixing: no color bleeding, no ghosting, no artifacts . . .!

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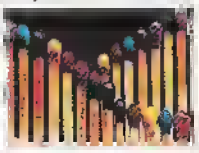
▶ **Realtime Framegrabber/Digitizer.** Freeze, grab and store (in standard 4096 or 16 million color IFF format) any frame from a "live" incoming RGB video source. Optional "RGB splitter" required to grab incoming composite or S-VHS video.

▶ **Flicker-Eliminator.** Duplicates and enhances the A3000's display enhancer circuitry. It even de-interlaces live external video! A must for any A2000 owner. Ask about our A2000 "genlock slot trade-up" program (in case your genlock slot is already used by something less exciting!)



▶ **Simultaneous Component Video (RGB) Out, Composite Video Out and S-VHS Video Out.** Now, anything you can see on your Amiga monitor can be recorded on video tape, including animations, ray-traced 24-bit images and more!

▶ **Picture-in-Picture (PIP) Display.** Freeze, resize, rescale and/or reposition live incoming RGB video just like any workbench window at the double click of a mouse or the pressing of a "hot key". With a multi-sync all this can even be in rock steady de-interlaced mode. Unique "reverse-PIP" feature, even allows you to place a fully functional Amiga workbench (or other application) screen as a SCALE-ABLE (shrunk down!) and re-positionable window over full-screen live video.

▶ To make sure you can take full and immediate advantage of every feature of your new *Impact Vision 24* video-station, we even include the following software with every unit:

- **Caligari-IV24.** An exclusive version of the leading broadcast quality, 3-D modelling and rendering program. Use your imagination to model 3D, 16 million color, scenes. Use your digitized video images as textures to wrap around any object! The mind is the limit!
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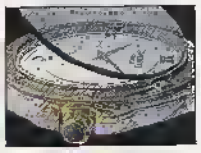

At GVP, we wanted to make a major impact on the use of the A3000/2000 by professional video enthusiasts. With the Impact Vision-24 we have!

For more information on how the **Impact Vision 24** can have a major impact on your video productions, call us at **215-337-8770.**

IMPACT VISION 24

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